



**THE GRADUATE SCHOOL
UNIVERSITY OF SCRANTON
1989/1990 GRADUATE CATALOG**



UNIVERSITY OF SCRANTON

Scranton, Pennsylvania 18510-2192

THE GRADUATE SCHOOL 1989/1990 CATALOG

Where Potential
Becomes
Achievement
in the
Jesuit Tradition

August 1989

The Graduate School
University of Scranton
800 Linden Street
Scranton, Pennsylvania 18510-2192

Phone 717-961-7600
or 1-800-FON-GRAD

ACCREDITED BY

Pennsylvania Department of Education
Middle States Association of Colleges and Secondary Schools
National Council for Accreditation of Teacher Education
American Chemical Society
The Council on Rehabilitation Education

MEMBER OF

American Association of Colleges for Teachers Education
American Council on Education
Association of American Colleges
Association of Jesuit Colleges and Universities
Association of University Women
Commission for Independent Colleges and Universities
Middle Atlantic Association of Colleges of Business Administration
National Association for Foreign Student Affairs
National Catholic Education Association
National Council on Rehabilitation Education
National Education Association
Northeastern Association of Graduate Schools
Pennsylvania Association of Colleges and Universities
Pennsylvania Association of Graduate Schools
Pennsylvania Council for International Education
The Council of Graduate Schools in the United States

STATEMENT OF OWNERSHIP

This graduate catalog is owned and controlled by the University of Scranton, Scranton, Pennsylvania 18510. Officers of the University are: The Rev. J.A. Panuska, S.J., president; Marilyn Coar, secretary; David C. Christiansen, treasurer.

CORPORATE TITLE

“University of Scranton”
Scranton, Pennsylvania



To the Prospective Graduate Student:

For over one hundred years the University of Scranton has served the higher education needs of the people of Northeastern Pennsylvania. In recent years, the University has attracted a student clientele from an ever broadening area and has emerged as one of the most respected universities in the East. At present, the University is experiencing a remarkable growth in its service to the surrounding region, in its research and scholarly activities, and in its physical presence.

The Graduate School and its various degree programs have been a vital part of this growth. The hallmarks of the institution which we try to emulate are academic rigor and relevance in our programs, and concern for the growth of the individual student in our relationships. Surveys of our students and graduates confirm that these are among the most noteworthy characteristics of our programs.

Whether **your** goal be preparation for further advanced study, professional development and advancement, or simply to learn, I invite you to discuss with our faculty, staff, and present students the Graduate School's program. I think you'll be impressed.

A large, stylized handwritten signature in black ink, which reads "Thomas P. Hogan".

Thomas P. Hogan, Ph.D.
Dean of the Graduate School
& Director of Research

Table of Contents

<i>Calendar for 1989-90</i>	6
<i>General Information</i>	8
Programs	8
Objectives	9
Organization and Location	10
Graduate Dean's Conference	11
<i>Admission and Registration</i>	12
Application Process	12
Admission Standards	12
International Students	15
Registration	15
Orientations for New Graduate Students	15
<i>Academic Regulations</i>	16
Mentors	16
Grading	16
Standards of Progress	17
Time Limit	17
Transfer of Credits	17
Comprehensive Examinations	18
Thesis	18
Dropping, Withdrawing from, Adding Courses	18
Summary of Steps	19
List of Commonly Used Forms	20
<i>Resources</i>	21
Library	21
Counseling and Career Services	22
Assistantships, Financial Aid	22
Computer Facilities	22
Research Centers	27
Honor Societies	28
Recreation Center	28
Other Services	28
<i>Tuition and Fees</i>	29
Tuition and fees	29
Refund Schedule	29

<i>Education</i>	30
Secondary Education	31
Counselor Education	33
Elementary Education	36
Administration	38
Reading	40
Developmental Education	41
Supervision	42
Course Descriptions	43
 <i>Human Resources</i>	52
Health Administration	53
Human Resources Administration	56
Rehabilitation Counseling	60
Individual and Group Counseling	63
Course Descriptions	66
 <i>Business Administration (MBA)</i>	71
Requirements	71
Course Descriptions	75
 <i>Eastern Christian Studies</i>	82
Requirements	82
Course Descriptions	83
 <i>English</i>	84
Requirements	84
Course Descriptions	86
 <i>History</i>	89
Requirements	89
Course Descriptions	91
 <i>Chemistry, Biochemistry, Clinical Chemistry</i>	93
Requirements	93
Course Descriptions	97
 <i>Software Engineering</i>	100
Requirements	100
Course Descriptions	102
 <i>Faculty and Staff Directory</i>	105
 <i>Brief Telephone Directory</i>	111
 <i>Campus Map</i>	Inside Back Cover

Calendar

Fall '89 Term Schedule

Preferred registration	April 3-28
Walk-in registration thru	Fri., Sept. 1
CLASSES START	Mon., Aug. 28
Late fee in effect after	Fri., Sept. 1
Last day to register for Comps	Fri., Sept. 8
Orientation for new students	Sun., Sept. 10
NO registration changes after	Fri., Sept. 15
Last day to apply for degree	Fri., Sept. 22
Comprehensive exams administered	Sat., Oct. 7
Last day for theses, schol. papers	Fri., Oct. 20
Term break (No classes)	Oct. 15-22
Last day to withdraw from course	Fri., Nov. 10
Thanksgiving (No class)	Thurs., Nov. 23
FINAL EXAMS	Dec. 12-18

Intersession '90 Term Schedule

Preferred registration	Oct. 23 - Nov. 3
Walk-in registration thru	Tues., Jan. 9
CLASSES START	Wed., Jan. 3
Orientation for new students	Sun., Feb. 18
NO registration changes after	Tues., Jan. 9
Last day to withdraw from course	Tues., Jan. 23
FINAL EXAMS	Jan. 31 - Feb. 1

Spring '90 Term Schedule

Preferred registration	Oct. 23 - Nov. 3
Walk-in registration thru	Sun., Feb. 11
CLASSES START	Mon., Feb. 5
Late fee in effect after	Sat., Feb. 10
Last day to register for Comps	Fri., Feb. 23
Orientation for new students	Sun., Feb. 18
NO registration changes after	Fri., Feb. 23
Last day to apply for degree	Fri., Feb. 23
Comprehensive exams administered	Sat., Mar. 3
Last day for theses, schol. papers	Fri., Mar. 16
Term break (No classes)	Mar. 19-25
Last day to withdraw from course	Thurs., April 12
Easter Holiday (No classes)	April 13-16
FINAL EXAMS	May 17-21
COMMENCEMENT	Sat., May 26

*Summer Sessions
Common Dates for Summer '90 Terms*

Preferred Registration	April 2-13
Walk-in registration thru	First class day
Last day to register for comps	Fri., June 29
Last day to file for degree	Fri., June 29
Comprehensive exams administered	Sat., July 7
Last day for theses, schol. papers	Fri., July 13

Summer I '90 Term Schedule

CLASSES START	Mon., June 4
NO registration changes after	Fri., June 8
Last day to withdraw from course	Fri., June 22
FINAL EXAMS	June 29-30

Summer G '90 Term Schedule

CLASSES START	Mon., June 18
NO registration changes after	Fri., June 22
Last day to withdraw from course	Wed., July 18
FINAL EXAMS	July 25-26

Summer II '90 Term Schedule

CLASSES START	Mon., July 9
NO registration changes after	Fri., July 13
Last day to withdraw from course	Fri., July 27
FINAL EXAMS	Aug. 3-4



The staff of the Graduate Office. Standing, left to right: Mary Ann Kuzdro, Jim Goonan, Peggy Daggars, Regina Bennett. Seated, left to right: Dean Hogan, Arthur Bugh, Faye Cuchara, Margie Ezze.

General Information

The University of Scranton, the oldest Catholic institution of higher education in Northeastern Pennsylvania, was founded in 1888 as Saint Thomas College. It is chartered under the laws of the Commonwealth of Pennsylvania and empowered to confer Bachelor's and Master's degrees in the Arts, Sciences, Business Administration and Education. In 1938 Saint Thomas College became the University of Scranton, while four years later the Society of Jesus acquired title from the Catholic Diocese of Scranton and administrative control from the Brothers of the Christian Schools. Thus Scranton became the twenty-fourth of the twenty-eight Jesuit colleges and universities in the United States.

Programs

Graduate study was initiated at the University of Scranton in 1950, the first master's degrees being awarded in 1952. At present, the following programs are offered by the Graduate School:

Business Administration	MBA
Biochemistry	MS,MA
Chemistry	MS,MA
Clinical Chemistry	MS,MA
Eastern Christian Studies	MA
English	MA
History	MA
Health Administration	MS
Human Resources Administration	MS
Individual and Group Counseling	MS
Rehabilitation Counseling	MS
Software Engineering	MS *
Elementary School Administration	MS
Secondary School Administration	MS
Developmental Education	MS
Elementary Education	MS
Counselor Education	MS
Reading	MS
Secondary Education:	MS,MA
Chemistry, English, History, Mathematics	

* Begins Fall 1990.

The University has certification programs approved by the Pennsylvania Department of Education in the areas listed below. Some of these may be pursued in connection with an undergraduate degree, some in connection with a graduate degree, and some may be pursued independent of any degree program.

Certification Programs

Biology	Latin
Chemistry	Mathematics
Communication	Physics
Elementary Education *	Reading Specialist
Elementary Principal	Secondary Principal
English	Secondary School Guidance
French	Social Studies
General Science	Spanish
German	

Supervisor certificates in:

Biology	Physics
Chemistry	Reading
Communication	Science
English	School Guidance
Foreign Language	Social Studies
Mathematics	

* New in 1989.

A thesis is required in the M.A. programs except in English and history, which have thesis and non-thesis options. Students in the M.S. programs generally have the option of completing a scholarly paper or completing additional course work. All students in M.A. and M.S. programs must pass a comprehensive examination in their respective fields.

Objectives

As one of the family of world wide Jesuit Colleges and Universities, the University of Scranton shares with them a common educational heritage and tradition. Its principal objective, therefore, is to lead the student to understand and to inspire him/her to fulfill that complex of dignities and responsibilities which man or woman, as a person and as a member of human society, is under God.

The specific mission of the Graduate School is to provide advanced, post-baccalaureate education through high quality programs which are coordinated with the University's other programs. The Graduate School subscribes to the Policy Statement on The Master's Degree of the Council of Graduate Schools regarding the nature, requirements and evaluation of master's level work.

Organization and Location

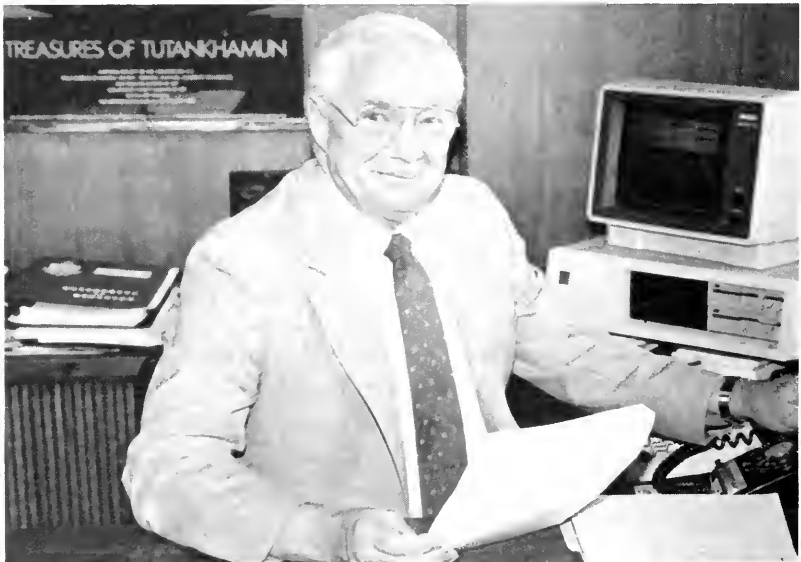
The administration and supervision of the Graduate School is the responsibility of the Dean of the Graduate School. The Dean is assisted by a Graduate Dean's Conference, an advisory committee, of which the Dean is chair. All questions concerning admission, candidacy and comprehensive examinations or modifications of course programs, must be submitted in writing to the Dean of the Graduate School. Decisions of the Dean of the Graduate School are final.

Requests for admission, transcripts, letters to interested parties, and data concerning academic records should be made to the Graduate Office, University of Scranton.

The office of the Dean of the Graduate School is on the 2nd Floor of The Estate, located in the center of the campus (see map inside back cover). The office is open daily from 8:30 a.m. to 4:30 p.m. Monday through Friday. During Fall and Spring term it is also open Monday through Thursday evenings. For students who wish to consult the Dean the courtesy of calling for an appointment is recommended.

The Graduate School is in session during the Fall and Spring semesters, the (January) Intersession, and for three Summer sessions. The calendars for each of the sessions are listed in the first part of this Catalog.

Time schedules for each course appear in the special bulletins published four times each year for Fall, Intersession, Spring, and Summer sessions. Copies of these bulletins may be obtained in the Graduate Office.



Mr. Arthur Bugh, Director of International Student Affairs.

Graduate Dean's Conference

Dr. Thomas P. Hogan *Chair, Dean of the Graduate School*
 Dr. Raymond W. Champagne, Jr. *Professor of History*
 Dr. James J. Cunningham *Associate Professor of Education
and Chair, Department of Education*
 Dr. Joseph R. Zandarski *Professor of Business Administration*
 Dr. Joseph H. Dreisbach *Professor of Chemistry*
 Rev. John J. Levko, S.J. *Professor of Mathematics
and Director, Eastern Christian Studies*
 Dr. Raymond L. Kimble *Associate Professor of Education*
 Dr. Eugene A. McGinnis *Professor of Physics*
 Dr. Francis X. Jordan *Associate Professor of English and
Chair of Department*
 Dr. John K. Stout *Professor of Human Resources
and Chair, Department of Human Resources*
 Mr. James L. Goonan *Assistant to the Dean*
 (Three graduate students, not chosen when this catalog went to press,
 also hold membership on the Graduate Dean's Conference.)



Recipients of the Graduate School's 1989 Outstanding Achievement Awards. Standing, left to right: Brian G. Osifat (Counseling), Cassandra J. Snyder (Human Resources Administration/Muhlenberg), M. Holly Morrison (Counselor Education), Hassanein Rais (Accounting), William Howell III (Chemistry), Mary L. Yaniger (Finance), Elizabeth Jackson (Marketing), Paul Stefany (Education), Dave Smith (School Administration), Jennifer Sheard (Humanities), John F. Pullo (Operations Management). Seated, left to right: Dr. Tom Hogan, Dean, Gerard Hart (Student Service), Rev. Gordon Daniells, S.J. (International Understanding), Virginia L. Fries (Health Administration). Missing: GERALYN A. JACOBS (Human Resources Administration).

Admission and Registration

Application Process

All planning to enter the Graduate School should contact the Graduate Office for an application form. Completed applications, together with transcripts of undergraduate and graduate work taken elsewhere, should be in the Graduate Office one month before the applicant begins graduate study. International students should allow at least three months.

With the permission of the dean, a person is sometimes permitted to register for courses for one term before being admitted for graduate study *provided* an Application for Admission has been submitted. Under no circumstances, however, will he/she be permitted to register for courses in succeeding semesters unless he/she has been formally admitted to the Graduate School. The Graduate School will not prepare a transcript, issue a grade report, or verify that one has attended the Graduate School unless it has on file an application for admission and an official transcript attesting to the attainment of the bachelor's degree from an accredited institution.

Note: The option of taking courses for one term while the application is being processed is *not* open to applicants for the Business Administration (MBA), Human Resources Administration, Health Administration, and Software Engineering programs. Students must be formally admitted to these programs before taking any courses in them. (However, applicants for the MBA program may take prerequisite, foundation courses for one term while their application is in process.)

Admission Standards

The admission standards and policies of the University of Scranton are free of any limitation, specification or discrimination on the grounds of race, religion, color, national or ethnic origin, sex, age, or handicap, except as provided by law.

An applicant for admission to the Graduate School must possess a baccalaureate degree from an American college or university accredited by one of the recognized regional accrediting associations, or the equivalent from an international college or university. The ordinary standard for admission to a graduate program is an undergraduate QPI of at least 2.75 (on a 4.0 scale). Students falling below this level may submit other evidence of their ability to successfully complete a graduate program, such as grades in other postbaccalaureate courses, scores from examinations, or a record of progressively higher work responsibilities. In addition, the applicant's previous course work must show the successful completion of all prerequisites for graduate work in the program to which application has been made. Individual departments/programs may establish

higher QPI requirements and/or introduce additional criteria for making the admissions decision. Consult the sections of this Catalog devoted to the specific programs for such other criteria. Final action on an application for admission to the Graduate School is taken by the Graduate Dean.

Ordinarily, the applicant must submit the following to be considered for admission to the Graduate School:

- The completed graduate application, along with the non-refundable application fee
- Official transcripts of all previous undergraduate and graduate work completed at accredited institutions (“student” copies of transcripts are not acceptable)
- Three references from persons capable of evaluating the student’s educational background and work or personal character
- Any additional material required by a particular department or program, e.g., test scores, personal interview, etc.
- International students must submit scores from TOEFL and an affidavit of financial support

Applicants may be admitted to the Graduate School in one of the following categories:

Regular Admission. Applicants are admitted under this category when they have satisfied the admissions criteria of both the Graduate School and the department or program in which they are to enroll for graduate studies.

Probationary Admission. Applicants who do not meet all of the criteria for Regular Admission, but showing reasonable promise for success in graduate studies, may be accepted on a probationary basis. Students accepted on probation must consult their mentors to determine specific courses to be taken. The student may not register for more than six credits in a semester while on probationary acceptance. Students who obtain a cumulative QPI of at least 3.0 after completing the prescribed nine credits are removed from probation and continue as regularly accepted students. Students who do not obtain a cumulative QPI of at least 3.0 after completing the prescribed nine credits of coursework are subject to dismissal.

Provisional Admission. Applicants are admitted to the Graduate School under this category when their credentials are either incomplete at the time of application or when there is evidence of a deficiency in their academic preparation for studies in their chosen graduate program. Incomplete credentials may result because the application was submitted prior to the conferring of the baccalaureate degree, essential undergraduate grades are not yet available, or advanced test scores have not yet been reported, et cetera. An academic deficiency in preparatory studies would be determined by the requirements of the separate department or program in which the applicant seeks admission.

Special Admission. Applicants who are admitted to the Graduate School under this category are non-degree students. They are admitted to pursue studies for certification, transfer of credit, self-improvement, master's equivalency, or auditing. The continuance of graduate studies under this category is governed by the grade policy of the Graduate School. A qualified undergraduate student who has been admitted to an accelerated course of study that permits him or her to earn graduate credit is accepted into the Graduate School as a special student under this category. Acceptance as a degree student is contingent upon the reception of the baccalaureate degree in addition to the successful fulfillment of all other requirements for admission.

Second Degrees or Programs

Students who wish to take additional courses or pursue a new program within the same degree area as their first program and do so *within two years* of completing their first program need only advise the Graduate School Office and will be permitted to register for class.

Students who wish to start a new program within the same degree area as their first program and do so *between 2-5 years* of completing their first program must submit a new application with fee. Supporting materials will be pulled from the Graduate Office files.

Students who wish to start a new program in a *different* degree area from that of their first program and do so *within five years* of completing their first program, must submit a new application with fee and letters of reference. All other supporting materials will be pulled from the Graduate Office files.

Students wishing to begin *any* new programs *after five years* must submit a new application, fee, and all supporting materials.

Retention of Application Files

Applications for admission will be kept for *two years* from the original date of receipt. If the application has not been completed during this period, it will be destroyed.

Applications for admission which are completed and have been acted upon will be kept for *two years* from the date of acceptance. If a student does not register for class during this period, the application will be destroyed.

Prior to an application file being destroyed, the applicant will be notified by mail. If the applicant subsequently decides to enter a graduate program at the University, he/she will be required to reassemble the entire application file.

International Students

Applicants who are citizens of non-English speaking countries are required to obtain a score of at least 500 on the Test of English as a Foreign Language (TOEFL) as one criterion for admission to the Graduate School. Certain degree programs, as described in the sections on those programs in this catalog, require TOEFL scores higher than 500. International students are also required to submit a Certification of Finances form. All application materials for international students should be available for review in the Graduate Office a minimum of three months before the term in which the student wishes to begin study.

Ordinarily, international students are limited to six credits of work in their initial semester at the University and are required to participate in an English tutorial; there is no fee for this tutorial.

Registration For Courses

Registration for each semester will take place according to the schedules listed in the special bulletins which are issued prior to each semester. Mail registration is permitted after the initial acceptance and registration. Registration will be with the approval of a student's mentor or chairman of the department. *Students who wish to cancel their registration must give written notice to the Graduate School Office. Please see details under Dropping and Withdrawing from a Course.*

In order to facilitate registration for both continuing and new students, a period of PREFERRED REGISTRATION is held in advance of each term. This extends over a period of about two weeks. All continuing students are expected to register for the subsequent term during the Preferred Registration period.

The University reserves the right to withdraw a course from its schedule in which less than ten students have been registered.

Undergraduate students may register for certain graduate courses. They must, however, have the approval of the appropriate department chair and the appropriate deans.

Orientations for New Graduate Students

Orientations for new graduate students, covering Graduate School policies and procedures, library and computer facilities, etc., are scheduled as listed below. Students beginning in Summer '89 or Fall '89 are expected to attend the Fall Orientation; students beginning in Interession '90 or Spring '90 are expected to attend the Spring Orientation.

FALL ORIENTATION: Sunday, Sept. 10, 1989, 12-5 PM
Lecture Hall 102, Hyland Hall

SPRING ORIENTATION: Sunday, February 18, 1990, 12-5 PM
Lecture Hall 102, Hyland Hall

Academic Regulations

Mentors

From the inception of graduate study, students will be assigned a mentor to help them formulate a program of studies and supervise their work. It is suggested that students work closely with their mentors and that the courtesy of arranging appointments in advance with faculty members so designated be observed by all students.

Grading

Achievement of graduate students is recorded as follows:

A: excellent (4 quality points for each semester hour of credit);
B+: superior (3.5 quality points for each semester hour of credit);
B: good (3 quality points for each semester hour of credit); C: fair but passing (2 quality points for each semester hour of credit); F: failure (0 quality points for each semester hour of credit).

Other grade symbols used are:

“S” indicates pass. Individual departments are authorized the use of S (pass) or U (fail) under certain circumstances. Students in the Department of Chemistry, Education and Human Resources should consult their Department Chairman and/or mentor for details.

“IP” indicates a student is registered for a thesis or an approved research project which has not been completed at the end of a given semester but for which satisfactory progress is being made. This grade is temporary and once the work has been completed it must be converted to one of the permanent grade symbols.

“W” indicates that a student has withdrawn from a course.

“T” indicates postponement of the completion of a course. It is given at the discretion of the instructor to a student who is doing satisfactory work but who has not completed all of the course requirements at the end of a given semester. Given such an extension, the student must complete all the required work, unless otherwise agreed, before the midpoint of the next regular semester. Failure to complete the necessary work within the stipulated time results in automatic conversion of the “Incomplete” to the permanent grade of F.

“Audit” indicates that a student has taken a course for which permission has been granted without a grade being awarded. Students must secure such authorization prior to the start of a course.

The symbol “NG” is a temporary grade citation issued by the Dean on grade reports when a faculty member fails to meet the announced deadline for the submission of student final grade reports. Such temporary grade citations will be changed, in due course, to

permanent grade symbols when issued by the professor(s) charged with that responsibility.

Regular attendance at class is considered a requisite for successful completion of a course.

Standards of Progress

All students must have a cumulative QPI of at least 3.0 to graduate with a master's degree. In addition, all students must maintain a cumulative QPI of at least 3.0 to remain in good academic standing. If a student's cumulative QPI drops below 3.0, he/she is placed on academic probation. The student is allowed to remain on academic probation for a maximum of two semesters of coursework. The student's performance is reviewed by the mentor and the Dean of the Graduate School at the end of the two probationary semesters. If the student's cumulative QPI has increased to at least 3.0, the student is removed from academic probation. Otherwise, the student is subject to dismissal.

Time Limit

All graduate work for a degree, including the thesis, must be completed within six consecutive years. Time spent in the armed forces is not included in the six year period. Extension of this time restriction may be granted for valid reasons at the discretion of the Dean.

Transfer Of Credits

Transfer of credits to graduate programs at the University of Scranton is governed by the following policies:

1. That such credits were acquired in residence at the other institution. Extension credits are, ordinarily, not acceptable.
2. That only six (6) credits maximum be transferred.
3. That courses to be transferred parallel courses here and mesh with the student's program at the University of Scranton.
4. That these credits were taken within six (6) years of the student's admission.
5. That a grade of B or better was acquired in these courses and that an official transcript is submitted for work at other institutions, including the course description of the credits in question.

Students matriculated at the University of Scranton may follow courses at other approved graduate schools, and transfer credits only with the previous permission of their mentor and the Dean of the Graduate School.

Comprehensive Examinations

Students in Master of Arts and Master of Science programs must pass a comprehensive examination in their respective fields of study. The examination may be oral, written, or both. Comprehensive examinations are given on dates published in the academic calendar in this Catalog (see pages 6-7). Students must apply to take the comprehensive exam by the deadlines given in the academic calendar, using the Application for Comprehensive Examination form available in the Graduate Office. Eligibility for the examination is determined by the Director of the student's program. Students should consult their mentors regarding the nature of the examination in their field. Students failing the comprehensive examination twice will not be considered for the master's degree.

Thesis

Candidates for the Master of Arts degree in programs in the Departments of Chemistry and Education are required to complete a thesis. Students in English, History, and Eastern Christian Studies may opt to do a thesis. A thesis is completed under the active supervision of the candidate's mentor and approved by one additional reader. In case of doubt, a third reader may be required. In the preparation of the thesis, style regulations prescribed by the Graduate School will be observed. Three copies of the accepted thesis must be submitted to the Graduate School Office on or before the date indicated in the University calendar.

Dropping, Withdrawing From or Adding A Course

Students are alerted that they may drop a course during the time in which they are entitled to a refund of any amount. (See "Refund Schedule" (p.29). **TO DROP A COURSE STUDENTS MUST COMPLETE A "SCHEDULE CHANGE" FORM, WHICH IS AVAILABLE IN THE GRADUATE OFFICE. THIS FORM MUST BE COMPLETED AND RETURNED TO THE GRADUATE OFFICE WITHIN THE TIME IN WHICH STUDENTS ARE ENTITLED TO A REFUND.** The drop will be treated as if the student never registered for the course.

After the time in which a student is entitled to a refund has elapsed, students will be permitted to withdraw from a course.

TO WITHDRAW FROM A COURSE STUDENTS MUST COMPLETE A "SCHEDULE CHANGE" FORM AND RETURN IT TO THE GRADUATE OFFICE. The student's transcript will contain the course number and title, along with a "W" for "withdraw".

See the academic calendar for deadlines for withdrawing.

Note: There is a special fee for any course-related schedule change submitted after the first week of each term.

Summary

The following procedures are to be followed by students working for the advanced degree:

- 1) File an application for admission to graduate study, official transcripts of undergraduate preparation and of graduate credits taken elsewhere, supporting recommendations, and test scores (if required).
- 2) Meet with their mentor to organize a program of studies.
- 3) Complete core, specific major and elective courses.
- 4) Complete the required thesis or scholarly paper, if applicable.
- 5) Successfully pass the required comprehensive examination.
- 6) Make formal application to the Graduate Office for the degree.



The Estate, located in the heart of the campus, is home for the Graduate School Office.

Special Note For Students

Students, please note carefully that it is your responsibility to be familiar with the academic regulations, fee structures, and other policies contained in this catalog.

Changes are effected from time to time in the general regulations and in the academic requirements. There are established procedures for making changes, procedures which protect the institution's integrity and the individual student's interest and welfare. A curriculum or graduation requirement, when altered, is not made retroactive unless the alteration is to the student's advantage and can be accommodated within the span of years normally required for graduation. When the actions of a student are judged by competent authority, using established procedure, to be detrimental to the interests of the University community, that person may be required to withdraw from the University.

List of Commonly Used Forms

This is a handy reference list of forms commonly used by graduate students. Certain less commonly used forms are not included here. The commonly used forms are readily available in the Graduate Office as well as in most department offices and from mentors.

APPLICATION FOR ADMISSION: Use this form to apply for admission to the Graduate School.

GRADUATE REGISTRATION: Use this form to register for courses, either through Preferred Registration or Walk-in Registration.

SCHEDULE CHANGE: Use this form to change a Registration form already submitted, e.g., to withdraw from, drop or add a course.

READER: Use this form, along with the Registration form, to register for a Reader course.

GRADUATE CREDIT TRANSFER RECOMMENDATION: Use this form to request review of graduate credits taken elsewhere for transfer to your program here.

APPLICATION FOR COMPREHENSIVE EXAMINATION: Use this form when you are ready to take comprehensives. *

APPLICATION FOR DEGREE: Submit this form in the term when you expect to complete all degree requirements. *

REQUESTS FOR TRANSCRIPT: Use this form to request an official copy of your graduate transcript.

PROGRAM CHANGE: Use this form if you have already been admitted to one program but wish to be admitted to another; this includes changes between MA and MS programs within the same department.

EMPLOYER REIMBURSEMENT FORM: Use this form if you are under an employer reimbursement plan for tuition benefits. Completed form must be returned to Treasurer's Office each term with your registration agreement.

APPLICATION FOR GRADUATE ASSISTANTSHIP: Complete and submit this form to the Graduate Office if you wish to be considered for a graduate assistantship in any department.

* See Calendar (pp. 6-7) for deadlines.



Resources

Alumni Memorial Library

Library holdings exceed 270,00 volumes, 70,000 pieces of microfilm, and 1,775 periodical subscriptions. In addition, the Media Resources Center, located in the Gallery, holds over 7,500 non-print items, including video cassettes, records, films, and filmstrips. Library holdings, including the list of periodical subscriptions, and circulation information, are automated and accessed via computers. ALEC, the Alumni Library Electronic Catalog, tells the user what materials are owned, whether or not someone has borrowed them, and when they are due back from loan. ALEC can be dial accessed from modem-equipped computers outside the Library.

The Library is open 93 hours a week. Hours vary by day of the week and part of the term. During final exams, hours are extended. Library hours are posted on bulletin boards, on ALEC, and on a recorded message.

University of Scranton students may borrow directly from libraries in a local consortium. These NEPBC libraries include Marywood, King's, Wilkes, College Misericordia, and Keystone Junior College. A list of periodicals held by NEPBC libraries is available at the Reference Desk. Students may also obtain materials not owned by the Library through Interlibrary Loan. There is no charge for borrowing books; photocopies of articles are \$1.50 each. The Library subsidizes Interlibrary Loans.

— *Computer Database Services.* The Library accesses various databases such as DIALOG, Dow Jones, Wilsonline and VuText. Retrieval of information includes bibliographies, directory, and statistical information tailored to the student's request. The average online time is 10 minutes and the average cost is \$10-25. Charges depend on the database accessed and the length of time connected. CD-ROM versions of databases are available in the Library. These include Newsbank, ABI/Infom, and Lotus DaText. CD-ROMs may be accessed without charge to students.

— *Photocopying.* Four photocopiers are available for use. The Library uses a Vendacard system. The initial purchase of a card is \$1.00 for the card and 5 copies. Additional copies are 10 cents, purchased in \$1.00 increments. Micro copiers for copying for microfilm/fiche use dimes. A dollar changer is available by the exit gate.

— *Microfilm Reading Area.* In addition to newspapers and periodicals on microfilm/fiche, the Library has telephone directories, college catalogs, ERIC documents, historical documents, and Newsbank information on microformats.

— *Assistance.* A Circulation Desk and a Reference Desk are staffed at all times to provide assistance to Library users. Students are encouraged through bibliographic instruction and one-on-one assistance to become Library users.

Counseling And Career Services

The University's counseling and placement services are available to graduate students. The Counseling Center provides personal and career counseling and is located in the Gallery, 2F (Tel. 961-7620). The office hours are 8:30 a.m. to 8:30 p.m., Monday through Thursday, and 8:30 a.m. to 4:30 p.m. on Friday.

In addition, there is a Career Services Office to serve students anticipating further graduate work, and for assistance in securing employment placement. Office hours are 8:30 a.m. to 4:30 p.m. Monday through Friday, and at other times by appointment. Contact Career Services in the Gallery, 2R (Tel. 961-7640) to arrange appointments.

Assistantships, Financial Aid

Approximately 45 teaching fellowships, teaching assistantships, and research assistantships are available. For students in the rehabilitation counseling program, traineeships are also available. Information and application forms for the fellowships and assistantships may be obtained from the Dean of the Graduate School. Information and application forms for the rehabilitation counseling traineeships are available from the chairman of the Department of Human Resources.

Resident assistantships are offered to single male and female graduate students, whereby room and board in the university's dormitories are provided. Applications may be obtained from the Student Personnel Office. A limited number of campus jobs sponsored by the federally-funded work-study program are available. Inquiries regarding the work-study program should be directed to the Financial Aid Office.

Computer Facilities

IBM MAINFRAME — LOCATION: ST. THOMAS HALL, ROOM T107. The hub of administrative computing hardware is an IBM 4381-P23 processor with 16 megabytes of main memory. The 4381-P23 is configured with one 3380 AD4 disk unit and one 3380 BE4 disk unit, totaling 7.5 gigabytes of disk storage, two 3420 MOD 8 tape drives, one 3705 communications controller, six local and eight remote communications controllers. The communications controllers handle a network of terminals and printers totaling 328 stations. The main printer on the system is a 4245 MOD 20, 2,000 LPM printer. 3287-2 and 3268 printers are strategically placed around campus. VM/SP is the operating system. PROFS (Professional Office System)

is utilized as an electronic mail and calendar system. SQL/DS was installed in March 1986 as the Data Base Management System. COBOL and FORTRAN are the predominantly used programming languages.

VAX MINICOMPUTER — LOCATION: ST. THOMAS HALL, ROOM T107. The academic community is served by a central computer system located in St. Thomas, Room T107: a VAX 11/785 with 32 megabytes of main memory. The VAX utilizes four RA81 disk drives totaling 2 gigabytes of disk storage, two TU78 tape drives, and 104 communications lines which serve St. Thomas Hall, O'Hara Hall, Loyola Hall, and remote users via dial-up. Terminal communications are handled via Ethernet terminal servers and cabling installed in August 1986. The main printers on the system include an LP27 1200 LPM printer and an LN01 12 PPM laser printer. Remote printers are also located in St. Thomas Hall, Room T110 and O'Hara Hall, Room O008. A Hewlett-Packard 7550A plotter is also located in St. Thomas Hall, Room T110. VMS is the operating system. The data base management system ORACLE is installed along with a wide variety of SAS specialized software packages including: SPSS-X, SPSS-Graphics, Minitab, Lindo, and IFPS. BASIC, FORTRAN, PASCAL, COBOL, CorVision and EPOS CASE tools. The VAX is linked to a worldwide network of colleges and universities via BITNET, allowing faculty and academic administrators electronic mail communications with colleagues at over 2500 institutions.

IBM PC LAB — LOCATION: ST. THOMAS HALL, ROOM T102. This instructional PC lab is equipped with 17 IBM PC's, a Hewlett-Packard LaserJet printer, a dot matrix printer, and a color overhead projection system which is used for displaying the screen of the instructor's PC unit. The PCs in this lab are connected via a Novell local area network which is served by an IBM PC-AT file server equipped with one 30 megabyte hard disk. Software residing on the network includes WordPerfect, WordStar, Lotus 1-2-3, and dBASE III PLUS. Instructors may reserve this facility for class use through Information Support Services. The facility is open for general student use when it is not reserved. Hours are posted outside of the lab.

IBM PC LAB — LOCATION: ST. THOMAS HALL, ROOM T103. This PC lab is intended for general student use. It is equipped with 14 IBM PC's, three dot matrix printer stations, and a Hewlett-Packard LaserJet printer station. One PC is connected to the VAX-11/785 for file transfers. Software which may be signed out at the booth outside of Room T101 includes WordPerfect, WordStar, Lotus 1-2-3, and dBASE III Plus. Hours are posted.

COMPUTER SCIENCE IBM PC LAB — LOCATION: ST. THOMAS HALL, ROOM T162. The Computer Science IBM PC lab is configured with ten IBM PC's with NEC multi-sync monitors and enhanced graphics cards operating on a Novell network. The file server of the network is an IBM PC-AT with 60 megabytes of disk storage. A dot matrix printer, a Hewlett-Packard LaserJet printer, and a Hewlett-Packard 7475A plotter round out the total configuration. One PC is connected to the VAX-11/785 for file transfers. Software resident on the network includes WordPerfect, WordStar, and Lotus 1-2-3. This lab is restricted for use by Computer Science majors from 9:00 a.m. to 3:00 p.m. daily. Weekend and other general use hours are posted.

CAD/CAM LAB — LOCATION: ST. THOMAS HALL, ROOM T170. The CAD/CAM Lab was established to meet the instructional demands of CAD/CAM courses in the Physics/EE program and to provide a facility for training of architects and engineers in CAD/CAM concepts as part of the University's responsibility as an authorized AutoCAD training center. The lab is outfitted with a mixture of IBM and AT&T personal computers. A majority of the AT&T computers were acquired as part of a \$200,000 direct equipment grant from AT&T. The contents of the lab is as follows: 6 AT&T 6300 Plus PC's with 30 megabyte hard disks, 6 AT&T 6300 PC's with 20 megabyte hard disks, 5 IBM PC's with 30 megabyte hard disks, 5 NEC multi-sync color monitors with Quadram EGA boards, 5 Summa Graphics tablets, a Hewlett-Packard 7550A plotter, and a dot matrix printer. The lab is also equipped with a Sony multi-scan video projection system which can display output from high resolution monitors.

IBM PC LAB — LOCATION: ST. THOMAS HALL, ROOM T464. The Writing Center is equipped with ten IBM PC's and two dot matrix printers. These PC's are intended for general use when class is not in session. Software which may be signed out from the student assistant includes WordPerfect and WordStar. Hours are posted.

PSYCHOLOGY IBM PC LAB — LOCATION: O'HARA HALL, ROOM O205. The Psychology IBM PC Lab is equipped with five IBM PC's and one PC Portable operating on a Novell network. The file server of the network is an IBM PC-AT with two 20 megabyte hard disks. Output devices include a dot matrix printer, a Hewlett-Packard LaserJet II printer, a Hewlett-Packard 7475A plotter, and a DecWriter III. Software on the network includes WordPerfect, WordStar, and Lotus 1-2-3. Hours are posted.

IBM PC LAB — LOCATION: O'HARA HALL, ROOM O508. The O'Hara Hall IBM PC lab is equipped with 15 IBM PC's operating on a Novell network. The filer server of the network is an IBM PC-AT with two 30 megabyte hard disks. Output devices include a dot matrix printer, a Hewlett-Packard LaserJet printer, and a Hewlett-Packard 7475A plotter. There is a monochrome overhead projection system which displays the screen of the instructor's PC unit. Software on the network includes WordPerfect, WordStar, Lotus 1-2-3, and dBase III Plus. This is an instructional facility which may be reserved for classroom demonstration. Reservations are handled through the Office of the Dean of the School of Management. Students may use this facility for general purposes when it is not reserved. Hours are posted.

IBM PC LAB — LOCATION: REDINGTON HALL. The Redington Hall IBM PC lab contains ten IBM PC's and two dot matrix printers for general student use. Software available includes WordPerfect, WordStar, Lotus 1-2-3, and Turbo Pascal. Hours are posted.

VAX TERMINAL LAB — LOCATION: ST. THOMAS HALL, ROOM T110. The main VAX terminal room is equipped with 28 VT100 and VT100-compatible terminals and 4 VT340 graphic terminals which are connected to the DEC VAX-11/785. A DEC high speed line printer, a Hewlett-Packard LaserJet printer, and a Hewlett-Packard 7550A plotter are available for output. Hours are posted.

VAX TERMINAL LAB — LOCATION: O'HARA HALL, ROOM O008. The O'Hara Hall terminal room is configured with nine VT-100-compatible terminals and a two Genicom dot matrix printers. Hours are posted.

MICROVAX LAB — LOCATION: ST. THOMAS HALL, ROOM T108. The facility consists of a MicroVAX II central processor with five megabytes of main memory, 159 megabytes of disk storage, a 95 megabyte tape unit, eight IBM PS/2 Model 80's and a Hewlett-Packard LaserJet II printer. The operating system is MicroVMS, a general purpose, multi-function operating system with an architecture that is a subset of VAX architecture. Features of the MicroVAX include: Digital Command Language (DCL), standard VMS utilities such as the EDT editor, Copy, Rename, Exchange, etc., Mail and the Modula-2 programming language. A link between the MicroVAX and the VAX-11/785 is accomplished via an Ethernet controller. Communication between the user's VAX and MicroVAX accounts is provided by a DECnet software interface which allows users logged on to either system to perform many operations on files on either

system. There are eight private workstations to create a beneficial working environment for students within upper division Computer Science courses. The MicroVAX lab has the same hours as the St. Thomas Hall, Room T110 terminal lab.

SOFTWARE ENGINEERING LAB — LOCATION: ST. THOMAS HALL, ROOM T108. The Computer Science Software Engineering Lab is contained within the same room as the MicroVAX II. The lab is dedicated to Software Engineering and features two CASE (Computer Aided Software Engineering) tools — Excelerator and CorVision. This lab is equipped with 8 IBM PS/2 Model 80's each with 4 megabytes of memory and 70 megabyte hard disks, a dot matrix printer, and a Hewlett-Packard LaserJet II printer. A variety of software is also contained within the lab. This lab is restricted for use by Computer Science majors.

JOURNALISM MACINTOSH LAB — LOCATION: JEFFERSON HALL, ROOM J106. This Macintosh Computer Lab was established in January 1989 to meet the instructional needs of the Journalism Department. The lab is equipped with 13 Macintosh SE's, an Apple ImageWriter printer, and an Apple LaserWriter NTX. A Sharp QA-50 video projection panel is attached to the instructor's unit. The Macintosh computers in this lab are connected via an AppleTalk network using Appleshare software and Ethernet hardware. The network is served by a Macintosh II file server equipped with a 80 megabyte hard disk. The lab also contains a Dayna file drive that allows MS-DOS files to be directly accessed by the Macintosh environment. Software residing on the network includes WordPerfect, Aldus Pagemaker, as well as Apple software such as Hypercard. Starting in the Spring semester 1990, this lab will be available to Journalism students and will eventually be open to all University students and faculty. Journalism classes will be using this network and hours will be posted.

HELENE FULD NURSING LAB — LOCATION: O'HARA HALL, ROOM O106. This lab, funded by a grant from the Helene Fuld Health Trust, is located in O'Hara Hall, Room O106. It consists of twelve IBM PS/2 Model 30 286 computers, each with two 1.44 megabyte floppy disk drives and color monitors. An IBM ProPrinter II is shared between every two computers. Two workstations have external 5.25 inch floppy drives attached for disk conversion. The instructor's workstation, also a Model 30 286, has a 20 megabyte hard disk, a 1.44 megabyte floppy drive, a color monitor, an external 5.25 inch floppy drive, an internal 2400 baud Hayes modem, and a Hewlett-Packard LaserJet II printer. It is connected to a Sharp QA-50 video projection panel used with an overhead projector to allow the

students to see the instructor's screen display. This computer is also a research workstation for faculty using software requiring its additional resources. Computer-assisted instruction software for Nursing is available as well as WordPerfect 5.0. This facility is exclusively for the use of the Nursing Department.

EDUCATION APPLE LAB — LOCATION: O'HARA HALL, ROOM O621. This lab is equipped with 5 Apple II Plus and 4 Apple II GS computers. Each Apple II GS is equipped with both 5¼" and 3½" diskette drives and Apple Color RGB monitors. The lab also contains two dot matrix printers and various software geared for education majors and is restricted for use by Education majors.

LEARNING RESOURCES CENTER LAB — LOCATION: ST. THOMAS HALL, ROOM T575. The Learning Resources Center Lab was established to provide a variety of computer-aided learning opportunities for the entire administration, faculty, staff, and student community. It is equipped with 5 IBM PS/2 Model 50's, 5 IBM PS/2 Model 30's, and two dot matrix printers. The lab also contains two 5¼" disk drives to allow file conversion between 3½" and 5¼" media. Software that is available for the lab includes WordPerfect, Lotus 1-2-3, Keyboarding, RightWriter and other software packages that pertain to many different subject areas. For more information and availability of the lab, please contact the Learning Resources Center.

Research Centers

The University has a number of research centers which may be of interest to graduate students in selected areas of study. Among these are the following:

Center for Economic Education. The University's Center for Economic Education is sponsored by the Pennsylvania Council on Economic Education and is affiliated with the National Joint Council on Economic Education. The Center helps local schools to establish programs in economic education and maintains an extensive collection of materials on this subject. Director: Dr. Edward M. Scahill.

Center for Eastern Christian Studies: The Center for Eastern Christian Studies sponsors a variety of activities related to "Eastern" churches and East-West dialog in the religious sphere. Director: Fr. John Levko, S.J.

CAD/CAM Resource Center. The CAD/CAM Resource Center assists local businesses with the training and utilization of computer-aided design and computer-aided manufacturing. For the past several years the Center has had an active program supported by the Ben Franklin Partnership of the Commonwealth of Pennsylvania. Director: Dr. Joseph Connolly.

Northeastern Pennsylvania Resource Center for Engineering, the Sciences and Technology. The Resource Center has as its primary goal supporting the economic redevelopment of Northeastern Pennsylvania. The Center's programs focus on promoting career technology preparedness, systematic manpower training and state-of-the-art research and development in applied computing and engineering. Director: Mr. Jerome DeSanto.

Robotics Center. The Robotics Center is committed to providing customized robotics solutions for a variety of manufacturing and service applications. Equipped with industrial robots, the Center assists in training, technology transfer, and research in the field of robotics. Director: Dr. Jay Nathan.

Small Business Development Center. The SBDC provides assistance to small businesses in a nine-county area of Northeastern Pennsylvania through expert consultation and training in the areas of finance, marketing, and management techniques. Director: Ms. Elaine Tweedy.

Honor Societies

Chapter organizations of several national honor societies are maintained at the University of Scranton campus. Graduate students can be selected for membership in the following: Alpha Sigma Nu, international Jesuit honor society; Phi Delta Kappa, education; Phi Alpha Theta, national honor society in history; Delta Mu Delta, business administration honor society; Omicron Delta Epsilon, national honor society in economics and Phi Lambda Upsilon, honorary chemical society. Contact the chapter officers for further information regarding membership.

Physical Education/Recreation Complex

Graduate students may use the Long Center and Byron Recreation Complex on a per semester fee basis. Facilities are provided for indoor tennis and racquetball, basketball, swimming, weight room, sauna, etc.

Student Health Services

Graduate students may use the University Student Health Service located in Nevils Hall on a per semester fee basis. The service offers health and wellness information, nursing assessment, treatment of routine illnesses and injuries, medical services provided by physician and certified nurse practitioners by appointment, as well as referral to community health care providers for services beyond the scope of the Student Health Services.

Tuition and Fees

Tuition (per semester hour of credit)	\$235.00
MBA Tuition (per semester hour of credit)	\$245.00

Fees —

Application Fee	25.00
Registration Fee (per semester)	20.00
Parking Fee (per year)	25.00
Late Registration	20.00
Binding of Thesis	30.00
Graduation Fee	75.00
Recreation Center	
Fall or Spring Term	50.00
Summer or Intersession term	10.00
Reader Courses (per credit)	20.00
Transcripts	
Unofficial	1.00
Official: current students	2.00
Official: others	4.00
Schedule change fee (after 1st week of term)	15.00

Unless explicitly stated otherwise, tuition and fees are for one semester and are payable at registration. Tuition charges are made for all credits awarded. The Graduation Fee is payable, whether or not a student attends commencement exercises.

Students will not be permitted to receive any degree, certificate, or transcript of record until their financial accounts with the University have been satisfactorily settled.

The University will adhere rigidly to the following "Schedule of Refunds." Fees are not refundable.

Schedule of Refunds

Fall/Spring Semesters

Before the first day of a class and up to and including

9 calendar days after a class begins	100%
To and including 16 calendar days after a class has begun	75%
To and including 23 calendar days after a class has begun	50%
To and including 30 calendar days after a class has begun	25%
Beyond 30 days after a class has begun	No Refund

Summer and Intersession

End of First Week	100%
End of Second Week	25%
Beyond Second Week	No Refund

Department of Education

Dr. James J. Cunningham, Chair

Goals Of The Department Of Education

The Department of Education offers a variety of programs for individuals currently in the field of education as well as for those wishing to enter the field. The programs include initial certification for a variety of positions and additional certifications; master's degrees, some of which are directly connected with certifications and some of which may be pursued without any certifications; and individual courses which may be taken for updating skills and knowledge or pursuing new fields. The various programs and options are described in the following sections.

Departmental Requirements

Admission requirements for all programs in the Department of Education are the same as those for the Graduate School as a whole, as described on pages 12-15 of this catalog. All candidates for a master's degree in education are required to successfully complete a comprehensive examination in the field of their degree. Additional requirements for each degree or certification are described under the respective programs in the following sections.

Certification

All certification candidates must exhibit pre-certification competency of PL 94-142 before being recommended for the certification they seek.

A student who is enrolled in any certification program at the University and is recommended to be dropped from the program or refused University endorsement for certification may appeal the decision. The appeal is made through the Chair of the Department to a Committee consisting of three persons: the Graduate Dean, the Department Chair and a person from the faculty selected by the Director of the Certification Program in which the student is enrolled.

Approval of the mentor and certifying officer must be received before a course may be substituted for any course required in the specified certification program. Courses to be transferred from another college for certification purposes must also receive approval of the mentor and certifying officer before the courses are accepted for program requirements.

Secondary Education

Prof. Francis H. Curtis, Director

The Secondary Education program offers a number of options for students. The person who already holds a secondary certificate may choose a master's degree in secondary education with a *curriculum and instruction option*, *psychology option*, or a *content option*, the selection depending on the student's interests. The person who does not already possess a secondary education certificate will want to pursue the master's degree with *certification option*.

The *Foundation* course requirements (18 credits) are the *same* for all options and include the following courses:

<i>Foundation Courses</i> (18 credits)	Credits
Ed. 201 Educational Psychology	3
Ed. 202 Educational Research and Literature	3
Ed. 208 Advanced Foundations of Education	3
Ed. 231 Improving Instruction	3
Ed. 233 Curriculum Theory and Development	3
Ed. 295 Reading in the Content Areas	3

The various options have the following requirements in addition to the Foundation course requirements.

Curriculum and Instruction Option

Ed. 203 Educational Tests and Measurement	3
Ed. 204 Subject Methods	3
Ed. 268 Education of the Exceptional Child	3
Electives	9

Degree Requirements: Thirty-six (36) credits and a comprehensive examination are required for the Master of Science in Secondary Education with the Curriculum and Instruction Option.

Psychology Option

Ed. 203 Educational Tests and Measurement	3
Ed. 241 Group Dynamics	3
Ed. 268 Education of the Exceptional Child	3
Ed. 274 Developmental Psychology	3
Ed. 275 Psychology of Adjustment	3
Electives (3 credits)	
Ed. 242.1 Utilization of Community Resources	3
Ed. 242.2 Family Counseling and Therapy	3
Ed. 242.3 Psychology of Women	3
Ed. 242.4 Contemporary Problems of Adolescents	3

Degree Requirements: Thirty-six (36) credits and a comprehensive examination are required for the Master of Science in Secondary Education with the Psychology Option.

Content Option

Students and program advisor will select fifteen (15) to eighteen (18) graduate credits in one of the content areas listed below:

History Chemistry English Mathematics

Degree Requirements: The Master of Science in Secondary Education with the Content Option is awarded with thirty-three (33) credits, a comprehensive examination and a scholarly paper or thirty-six (36) credits and the comprehensive examination.

Certification Option

Ed. 203	Educational Tests and Measurement	3
E/CS 208	Computer Literacy for Educators	3
Ed. 213	Classroom Management	3
Ed. 204	Subject Methods	3
Ed. 268	Education of the Exceptional Child	3
Ed. 300.1	Directed Study: Field Experience	3
Ed. 260	Teaching Internship	3-9

A total of between thirty-nine (39) and forty-five (45) credits and a comprehensive examination are required for the Master of Science degree in Secondary Education with Certification. The number of credits required for Ed. 260: Teaching Internship may be reduced below 9 credits based on years of previous teaching experience. *Note:* Additional credits may be required depending on the student's previous course work and how this relates to the area in which the student wishes to obtain certification.

In addition to these credits, the student must achieve satisfactory scores on the Pennsylvania Teacher Certification Test Program (PCTCP). These tests may include:

- 1) Basic Skills — writing, reading, mathematics;
- 2) General Knowledge I — social studies, literature/fine arts, science;
- 3) Professional Knowledge;
- 4) The Specialization Area Test — mathematics, english, etc. as appropriate for the certificate sought by the candidate.

Any deficiencies in content preparation may require additional studies. Further, any deficiencies exhibited by the student identified by the PTCTP test results must be corrected. The student and program advisor will initiate a plan of action to remedy any deficiencies. Such a plan may require additional course work to eliminate the deficiencies. A person who holds a Pennsylvania certificate may only need to take the Specialty Area Test. Information regarding the PTCTP Tests may be obtained from the Director of Secondary Education.

Additional Certification and Self-Improvement

Students who already possess secondary teaching certification may pursue additional certifications. Courses required for the additional certifications will depend on the area(s) in which certification is sought and on previous course work. The student should consult the Director of the Secondary Education program regarding specific requirements.

Students may also take graduate courses for self-improvement, without reference to either a degree program or a certification program.

Counselor Education

Dr. James J. Cunningham, Director

Program Objectives

The primary objective of the Counselor Education Program is to prepare students for entry into secondary school counseling positions. School counseling, according to the *Occupational Outlook Handbook*, published by the U.S. Department of Labor, represents the largest specialty area in counseling. A smaller percentage of students in the program enter counseling positions in settings other than secondary schools, e.g., colleges, universities, public and private agencies and organizations.

Profession

According to the American Association for Counseling and Development, school counseling is a profession designed to facilitate self-understanding and self-development through individual and small group activities. Counseling denotes a professional relationship that involves a trained school counselor, a student, and significant others in the student's life. The focus of such relationships is on personal development and decision-making based on self-understanding and knowledge of the environment.

Services provided by the school counseling program are comprehensive and developmental in nature. The school counselor

possesses knowledge and skills that enable delivery of an effective program which includes attention to cultural diversities and special needs.

Certification and Accreditations

The Counselor Education Program is designed to meet the standards for certification as Secondary School Counselor established by the Pennsylvania Department of Education (P.D.E.). Upon completion of the Program, and the awarding of the Master's Degree, students are eligible to receive the Education Specialist I Certificate in Secondary School Counseling. The Program is competency based and designed to meet the Standards for Program Approval as outlined by P.D.E.

Certain students who already possess a master's degree may desire certification only. In those cases, their previous study and experience will be reviewed and a program of study will be recommended.

The Program is also accredited by N.C.A.T.E. (National Council for Accreditation of Teacher Education Programs). Initial planning for certification by C.A.C.R.E.P. (Council for Accreditation of Counseling and Related Educational Programs) is under way.

The Program is a blending of theoretical and factual knowledge and practical experience. In addition to acquiring specific competencies and skills, students are provided with opportunities for self-exploration and growth in the area of self understanding. It is our belief that the process of facilitating growth in others can occur only when the helping professional possesses a high degree of self awareness and a desire to explore avenues for continued growth.

Admission Requirements

The Counselor Education Program adheres to the policies and procedures of the Graduate School regarding admissions, retention and graduation of students.

Master's Degree

The curriculum in the Counselor Education Program is divided into four areas or sequences: psychological and sociological foundations, counseling, consultation and research.

Students admitted after June 1, 1988, will be required to complete a total of 42 credits to qualify for the Master's Degree in Counselor Education. Additionally, a student must satisfactorily complete the comprehensive examination and design an appropriate research project.

Course Requirements

Psychological and Sociological

Foundations (Minimum 9 cr.)

Credits

Ed. 274	Developmental Psychology	3
Ed. 275	Psychology of Adjustment	3
Ed. 201	Educational Psychology	3
Ed. 246	Career Development	3
Ed. 242.3	Psychology of Women	3
Ed. 242.4	Contemporary Problems of Adolescence	3

Counseling Sequence (24 cr. required)

Ed. 240	Theories of Counseling	3
Ed. 241	Group Dynamics	3
Ed. 242	Case Management and Interviewing	3
Ed. 242.2	Family Counseling and Therapy	3
Ed. 254	Use of Tests in Counseling	3
Ed. 244.1	Supervised Counseling Experience I	3
Ed. 244.2	Supervised Counseling Experience II	6

Consultation Sequence (3-6 cr. required)

Ed. 242.1	Utilization of Community Resources	3
Ed. 243	Current Issues in Counseling and Guidance	3
Ed. 242.5	Techniques of Consultation	3

Research Sequence (3 cr. required)

Ed. 202	Educational Research and Literature	3
---------	---	---

Degree Requirements:

Forty-two (42) credits are required for the Master's Degree and certification. The student's mentor may recommend appropriate deletions or substitutions, based on the evaluation of the student's credentials.



Dr. James Cunningham (center), Chairman of the Education Department & Director of the program in Counselor Education, meets with Prof. Leeann Eschbach and Dr. Edwin Herr, international authority on the counseling profession, just before Dr. Herr addresses alumni of the Counselor Education program.

Elementary Education

Dr. Raymond L. Kimble, Director

The Elementary Education program offers a number of options for students. The person who already holds an elementary education certificate may choose a master's degree in elementary education with a *curriculum and instruction option* or with a *psychology option*, the selection depending on the student's interests. The person who does not already possess an elementary education certificate will want to pursue the master's degree with *certification option*.

The *Foundation* course requirements (18 credits) are the *same* for all options and include the following courses:

<i>Foundation Courses</i> (18 credits)		Credits
Ed. 201	Educational Psychology	3
Ed. 202	Educational Research and Literature	3
Ed. 203	Educational Tests and Measurement	3
Ed. 208	Advanced Foundations of Education	3
E/CS 208	Computer Literacy for Educators	3
Ed. 268	Education of the Exceptional Child	3

The various options have the following requirements in addition to the Foundation course requirements.

Curriculum and Instruction Option

Ed. 219	Mathematics/Science Methods	3
Ed. 231	Improving Instruction	3
Ed. 233	Curriculum Theory and Development	3
Ed. 284	Language Arts Methods	3
Ed. 287	Topics in Elementary School Social Studies	3
	Electives	3

Degree Requirements: Thirty-six (36) credits and a comprehensive examination are required for the Master of Science in Elementary Education with the Curriculum and Instruction Option.

Psychology Option

Ed. 241	Group Dynamics	3
Ed. 274	Developmental Psychology	3
Ed. 275	Psychology of Adjustment	3
Ed. 282	Teaching the Gifted Child	3
Electives from the following (6 credits)		
Ed. 242.1	Utilization of Community Resources	3
Ed. 242.2	Family Counseling and Therapy	3
Ed. 242.3	Psychology of Women	3
Ed. 242.4	Contemporary Problems of Adolescents	3

Degree Requirements: Thirty-six (36) credits and a comprehensive examination are required for the Master of Science in Elementary Education with the Psychology Option.

Certification Option

Ed. 213	Classroom Management	3
Ed. 219	Mathematics/Science Methods	3
Ed. 284	Language Arts Methods	3
Ed. 287	Topics in Elementary School Social Studies	3
Ed. 291	Foundations of Reading	3
Ed. 295	Reading in the Content Areas	3
Ed. 300.1	Directed Study: Field Experience	3
Ed. 260	Teaching Internship	3-9

Degree Requirements: A total of 42 - 48 credits and a comprehensive examination are required for the Master of Science degree in Elementary Education with Certification. The number of credits required for Ed. 260: Teaching Internship may be reduced below 9 credits based on years of previous teaching experience.

In addition to the course credits required in the program, in order to obtain certification, the student must achieve satisfactory scores on the Pennsylvania Teacher Certification Test Program (PTCTP). These tests may include:

- 1) Basic Skills — writing, reading, mathematics;
- 2) General Knowledge I — social studies, literature/fine arts, science;
- 3) Professional Knowledge;
- 4) The Specialization Area Test — Education in the Elementary School.

Any deficiencies exhibited by the student identified by the PTCTP test results must be corrected. The student and program advisor will initiate a plan of action to remedy any deficiencies. Such a plan may require additional course work to eliminate the deficiencies. A person who holds a Pennsylvania certificate may only need to take the Specialty Area Test. Information regarding the PTCTP Tests may be obtained from the Director of Elementary Education.

Administration (Elementary and Secondary)

Dr. Thomas W. Gerrity, Director

Objectives

The preparation of elementary and secondary school principals.

Admission Requirements

These requirements for admission to the Administration program are in addition to the requirements of the Graduate School.

1. Recommendations from three persons capable of evaluating the candidate's personal qualities as well as academic potential.
2. A written self-estimate of the candidate's qualifications for the position of principal.
3. A personal interview.

The Master's Degree

The student will be recommended for a Master of Science degree in *either* Elementary School Administration or Secondary School Administration after satisfactory completion of required courses, as approved by the mentor, passed a Comprehensive Examination in School Administration, and filed an approved scholarly paper or a professional project sixty days before graduation. With the mentor's permission, the student may substitute a prescribed three-credit course for the scholarly paper or professional project.

Normally thirty-six (36) credits are required for the Master of Science degree, and forty-eight (48) credits for certification as an Elementary School Principal or a Secondary School Principal.

Courses are prescribed from the following list; other courses, including electives, may be substituted in consultation with the mentor.



<i>Course</i>	<i>Administrative Sequence:</i>	<i>Credits</i>
*Ed. 221	Educational Administration	3
*Ed. 222.1	Problems in School Administration and Supervision	3-6
Ed. 222.2	Public Relations for Educators	3
Ed. 222.3	Personnel Management for Educators	3
**Ed. 222.4	School Finance	3
Ed. 222.5	School Plant Management	3
Ed. 222.6	School and Community Relations	3
***Ed. 222.7	Practicum in School Administration	3-6
**Ed. 222.8	School Law	3
Ed. 222.9	Seminar in Advanced School Law	3
Ed. 223	Educational Management	3
*Ed. 224	The Elementary School Principal as Administrator	3
*Ed. 225	The Secondary School Principal as Administrator	3
Ed. 226	Administration & Organization of the Middle School	3
*Ed. 237	Principles and Practices of Supervision	3
Ed. 238	Practicum in Supervision	3
<i>Curriculum and Instruction Sequence:</i>		
Ed. 231	Improving Instruction	3
*Ed. 233	Curriculum Theory and Development	3
Ed. 291	Foundations of Reading	3
Ed. 295	Reading in the Content Areas	3
<i>Psychological and Behavioral Sequence (any one)*:</i>		
Ed. 241	Group Dynamics	3
COUN 335	Stress Management	3
Ed. 274	Developmental Psychology	3
Ed. 275	Psychology of Adjustment	3
<i>Philosophical and Sociological Sequence*:</i>		
Ed. 208	Advanced Foundations of Education	3
<i>Research Sequence*:</i>		
Ed. 202	Educational Research and Literature	3

*Normally required for degree and certification.

**Normally required for certification only.

***One semester of Ed. 222.7 is required for degree; a second semester of Ed. 222.7 is normally required for certification.

Note: In certain circumstances, Ed. 222.9 may be substituted for Ed. 222.8 and Ed. 222.1 may be substituted for another course.

Reading

Dr. Raymond L. Kimble, Director

Master's Degree Program

Candidates for the Master of Science degree in Reading may select the Professional Contribution Option or the Additional Credit Option to fulfill the degree requirements.

Professional Contribution Option: 30 credits

The Reading Sequence: 18 credits

The research course, Ed. 202: 3 credits

Elective courses (with mentor's approval): 9 credits

Written comprehensive examination

An approved professional contribution

Additional Credit Option: 36 credits

The Reading Sequence: 18 credits

The research course, Ed. 202: 3 credits

Elective courses (with mentor's approval): 15 credits

Written comprehensive examination

Under either option, the student may obtain Certification as a Reading Specialist before attaining the degree by completing the Reading Sequence and passing the comprehensive examination.

The comprehensive examination in reading serves as the competency exam for purposes of certification.

Certification Program In Reading

To be recommended for the Reading Specialist Certificate the student must complete the Reading Sequence and pass the comprehensive examination. The student must demonstrate the competency expected from completing the Reading Sequence. Appropriate additions, deletions, or substitutions may be made as determined by an evaluation of the student's credentials.

Reading Supervisor

The University offers an approved program for becoming certified as a Reading Supervisor in Pennsylvania. Please see description in Supervision section of this Catalog.

<i>The Reading Sequence</i>	<i>Credits</i>
Ed. 291 Foundations of Reading	3
Ed. 292 Psycholinguistic Implications for the Teaching of Reading	3
Ed. 293 Clinical Diagnosis of Reading Disabilities	3
Ed. 294 Instructional Practicum	3
Ed. 295 Reading in the Content Areas	3
Ed. 296 Organization and Operation of Reading Programs	3

Other Courses

Ed. 201 Educational Psychology	3
Ed. 202 Educational Research and Literature	3*
Ed. 231 Improving Instruction	3
Ed. 233 Curriculum Theory and Development	3
Ed. 274 Developmental Psychology	3
Ed. 284 Language Arts Methods	3
Ed. 290 Instructional Materials and Strategies for the Teaching of Reading	3
Ed. 297 Classroom Diagnosis of Reading Problems	3
Ed. 299 Teaching of Study Skills	3

Other courses may be selected with the mentor's approval.

* Required for the master's degree, under either Option.

Developmental Education

Dr. Michael Marino, Director

Objectives

To prepare personnel for service in secondary and post-secondary educational institutions in developing and operating programs in developmental/remedial/basic skills education.

Requirements:

The Master of Science degree requires 36 credits of course work, as outlined below, and the successful completion of a comprehensive examination.

<i>Foundation Courses: 9 credits required</i>	<i>Credits</i>
Ed. 201 Educational Psychology	3
Ed. 202 Educational Research and Literature	3
Ed. 203 Educational Tests and Measurement	3

Specialty Area: 21 credits required

Eng. 205	Modern Grammar in the English Curriculum	3
Eng. 206	Composition in the English Curriculum	3
Ed. 294	Instructional Practicum (2 terms)	6
Ed. 295	Reading in the Content Areas	3
Ed. 297	Classroom Diagnosis of Reading Problems	3
Ed. 299	Teaching of Study Skills	3

Electives: 6 credits

The remaining six credits of work are selected in the light of the student's interest and mentor's recommendation.

Supervision

Dr. Thomas W. Gerrity, Director

Objectives

The preparation of elementary and secondary school subject supervisors. The Supervision credential may be pursued in the following areas:

School Guidance Services	Foreign Languages
Reading	Mathematics
Biology	Chemistry
Physics	Social Studies
Science	Communication
English	

Admission Requirements

The candidate must meet the following requirements for acceptance into the Supervision program:

1. Possess adequate competency in the subject to be supervised. The application will be screened by the program faculty in the area for which the supervisory certificate is to be awarded.
2. Possess a valid teacher's certificate in area of concentration.
3. Complete an application for the Graduate School and meet the Graduate School admission standards.

Course Requirements

A student is required to complete a minimum of 24 credits in order to satisfy the competency requirements for supervisory certification, in order to be recommended by the University to the State Department of Education for certification as a supervisor. A suitable program, taken from the following courses and courses in the appropriate discipline, will be developed by the mentor in consultation with the student. The program must also be approved by the University's Certifying Officer. A competency needs analysis will be made to assist in developing a program of studies.

<i>Courses</i>	<i>Credits</i>
Ed. 202 Educational Research and Literature	3
Ed. 222.1 Problems in School Administration and Supervision	3
Ed. 222.8 School Law	3
Ed. 231 Improving Instruction	3
Ed. 233 Curriculum Theory and Development	3
Ed. 237 Principles and Practices of Supervision	3
Ed. 238 Practicum in Supervision	3
Ed. 241 Group Dynamics	3
Ed. 274 Developmental Psychology	3

Course Descriptions

Foundations of Education

Education 201. *Educational Psychology* *3 credits*

A study of psychological principles related to education, including learning, motivation, evaluation, with emphasis on practical application in the classroom setting.

(Prerequisite: teaching experience or consent of instructor).

Education 202. *Educational Research and Literature* *3 credits*

This is a basic course concerned with the nature of research problems in education. It is intended to introduce students to the basic principles of research; the more frequently employed research methodologies; the conceptualization of research problems in education; the formulation of hypotheses; and the study of selected data-gathering instruments. A research project is required, wherein the students will gain a facility in the critical analyses of research material essential to their graduate studies.

Education 203. *Educational Tests and Measurement* *3 credits*

Fundamental concepts applicable to educational testing, including validity, reliability, types of scores. Uses of standardized tests, especially achievement tests, in school settings. Methods of developing classroom tests.

Education 204. *Subject Methods* *3 credits*

Utilizing knowledge of planning and teaching generally, students will be guided in the analysis of specific content and techniques for teaching that content. They will demonstrate their ability to carry out plans in "micro" teaching experiences. Offered for various content areas.

Education 208. *Advanced Foundations of Education* *3 credits*

This course is intended to present the foundations of education in an integrated, multi-disciplinary approach. It will trace the development of education both as an institution and in terms of the ideas that have shaped that institution. The goal is a thorough perspective of education as it is today.

Education 213. *Classroom Management* *3 credits*

In-depth study of the rationale, theories, and techniques for creating a situation where learning can take place and for handling specific individual and group behavior problems in productive ways.

Administration

Education 221. *Educational Administration* 3 credits

A foundations course in general school administration, involving philosophical bases, organization in a democratic society, administration of instruction and personnel. Required of all students beginning a major in educational administration and a prerequisite for other courses in educational administration.

Education 222.1. *Problems in School Administration and Supervision* 3-6 credits

A seminar for the student seeking certification in elementary or secondary school administration or in supervision. Emphasis is upon in-depth examination of a selected problem or issue in administration or supervision. Admission with approval of the instructor. (Prerequisite: Education 221)

Education 222.2. *Public Relations for Educators* 3 credits

An introduction to school public relations. Emphasis is focused upon establishing contact between schools and the general public through the use of mass media.

Education 222.3. *Personnel Management for Educators* 3 credits

An overview of the establishment and performance of personnel policies as they relate to recruitment, selection, orientation, deployment, promotion, evaluation, in-service development, morale, and dismissal. Admission with consent of instructor.

Education 222.4. *School Finance* 3 credits

An introduction to public school finance. Emphasis is focused upon the responsibilities in handling student funds, district budgeting and accounting, and modern planning-programming-budgetary systems. Admission with consent of instructor.

Education 222.5. *School Plant Management* 3 credits

A study of problems involved in the planning, operation, and maintenance of school plant facilities. Emphasis is upon efficient use of existing plant facilities and their possible adaptation to meet modern educational and community needs. Admission with consent of instructor.

Education 222.6 *School and Community Relations* 3 credits

A study of the relationship of the school to the community. Emphasis is focused upon the school-community concept, community analysis, community characteristics affecting quality education, and public participation in educational planning. Admission with consent of instructor.

Education 222.7. *Practicum in School Administration* 3-6 credits

The purpose of this course is to give the student practical experience in administrative work. A minimum of 130 clock hours in one semester must be spent on this work. Work is done under supervision in a local school system according to a definite schedule approved by the instructor and the administrator of the school system involved. Admission by special arrangement. (Normally offered Fall and Spring semesters only.) (Prerequisite: Ed. 224 or Ed. 225 as applicable.)

Education 222.8 *School Law* 3 credits

A study of common law legislative enactments and directives of the Department of Education as they pertain to school systems.

Education 222.9 *Seminar in Advanced School Law* 3 credits

A comprehensive study of legal issues related to the operation of the nation's schools. Special emphasis is placed on issues in school law that may affect the nation and substantially alter the course of education. Admission with approval of the instructor.

Education 223. *Educational Management* 3 credits

An overview of functions and problems in three major areas of responsibility: finance, law, and personnel.

Education 224. *The Elementary School Principal as Administrator* 3 credits

A technical course emphasizing the administrative duties and responsibilities of the elementary school principal. Attention is focused on types of organization, programs of studies, pupil progress, teaching staff, plant and equipment, and community relationships. (Prerequisite: Ed. 221)

Education 225. *The Secondary School Principal as Administrator* 3 credits

A technical course emphasizing the administrative duties and responsibilities of the secondary school principal. Attention is focused on problems of organization, program of studies, pupil personnel, teaching staff, plant and equipment, and community relationships. (Prerequisite: Ed. 221)

Education 226. *Administration and Organization
of the Middle School* 3 credits

A technical course emphasizing the organizational and administrative duties and responsibilities of the middle school principal. Attention is focused on the problems of organization, program of studies, pupil personnel, teaching staff, plant and equipment, and community relationships. (Prerequisite: Ed. 221)

Curriculum, Instruction & Supervision

Education 219. *Mathematics/Science Methods* 3 credits

This course is designed to provide the elementary education major with planning and instructional strategies appropriate for use in the science and mathematics areas of the elementary curriculum. An analysis of content will be made in light of the needs of the elementary school, the elementary student and society.

Education 231. *Improving Instruction* 3 credits

Students will study a wide spectrum of techniques and strategies to improve classroom instruction and enhance learning. Emphasis will be on practical classroom applications.

Education 233. *Curriculum Theory and Development* 3 credits

Principles of curriculum construction which underlie the reorganization of the program of studies for elementary and secondary schools, sources of the curriculum, methods of organization, structure of knowledge, and curriculum planning and development.

Education 237. *Principles & Practices of Supervision* 3 credits

A description of a philosophy of supervision, principles of supervision, the role of the supervisor, planning a supervisory program, techniques of supervision, evaluation, coordinating the instructional program, and trends in supervision.

Educ./S.S. 237. 2. *Teaching of History and Social Studies* 3 credits

A consideration of the objectives of social studies, organizing the subject matter, textual and non-textual materials, the social studies curriculum, outcomes and their evaluation.

Educ./Engl. 237.2. *Teaching of English Literary Types
in Secondary Schools* 3 credits

Narrative and lyric poetry types, prose types, and drama. Techniques of methodology and organizational patterns are suggested. Listed under Education courses, this offering is taught by the Department of English.

Education 238. *Practicum in Supervision* 3 credits

The purpose of this course is to give the student practical experience in supervision. A minimum of 90 clock hours in one semester must be spent on this assignment. This is accomplished under the supervision of a certified supervisor, according to a definite schedule mutually approved by the instructor and cooperating supervisor. (Prerequisite: Ed. 231 and Ed. 237)

Education 260. *Teaching Internship* (Variable credits 3-9)

Involvement in actual teaching in a secondary school with appropriate supervision at both the secondary and University levels. Admission to the teaching internship is by permission of the Education Department chairperson. (Prerequisite: Ed. 103)

E/CS 208. *Computer Literacy for Educators* 3 credits

This course for educators is designed to meet the following goals: (1) knowledge of how computers operate; (2) develop ability to use the computer; (3) become aware of some of the applications of computers; (4) to understand the social implications of computers and computing; and (5) to understand the rudiments of the LOGO computing language, a language commonly available for microcomputers which promotes structured programming characterized by top-down design with stepwise refinement through modularization. A computer fee is charged.

E/CS 209. *Problem Solving with Pascal* 3 credits

This course for educators is designed to meet the following goals: (1) to develop a workable knowledge of PASCAL; (2) to develop problem-solving abilities utilizing top-down design with stepwise refinement; (3) to understand algorithm implementation; (4) to understand the principles of operating system design and utilization; (5) data structures and analysis of algorithms; and (6) to understand the principles of compiler and interpreter design. Admission with approval of the instructor.

E/CS 210. *Data Structures Using Pascal* 3 credits

This course is designed to give the teacher of computing the necessary background to teach the data structures component of the AP Computer Science course. Topics included will be stacks, queues, deques, linked lists, trees, sorting, searching, and implementation of these in Pascal. (Prerequisite: E/CS 209.)

Education 268. *Education of the Exceptional Child* 3 credits

A general view of the field; historical background — both philosophical and legislative, with special emphasis upon PL 94-142. Physical, mental and emotional handicaps will be reviewed in some detail. Special concerns of gifted children will also be presented. Preventative and remedial programs and practices will be emphasized.

Education 282. *Teaching the Gifted Child* 3 credits

Teachers will have an opportunity to study the broad range of giftedness in children. Emphasis will be on how to foster the development of gifted youngsters in our schools. Programming for the gifted will be studied also.

Education 283. *Children's Literature* 3 credits

Literature for children from kindergarten through the elementary school years. Children's literary needs and interests will be emphasized.

Education 284. *Language Arts Methods* 3 credits

Focus is on the place of the language arts in the total elementary school curriculum. Topics included are integration of reading, writing, speaking and listening; correlation of these four areas of the language arts with the content subjects; and a consideration of innovative spelling and handwriting programs.

Education 287. *Topics in Elementary School Social Studies* 3 credits

Students will study selected topics, problems, and recent developments in the elementary/social studies curriculum and instruction.

Education 289. *Workshop in Education* 3 credits

Students will have the opportunity to develop and test innovative curriculum materials and strategies with special emphasis on models for individualizing instruction.

Research

Education 300. *Research Seminar* Variable to 3 credits

Designed for students who are working on their M.A. thesis. Registration is only with permission of the student's advisor and the Department Chairman.

Education 300.1. *Directed Study* Variable to 6 credits

This course is designed for students working in independent study on special projects and workshops. Registration in this course requires permission of the student's mentor, and the Department Chairman.

Reading

Education 290. *Instructional Materials and Strategies for the Teaching of Reading* 3 credits

A comprehensive survey of materials, resources and devices used to teach reading. Emphasis will be placed on traditional and current trend materials, laboratory kits, teacher-made devices and instructional media.

Education 291. *Foundations of Reading* 3 credits

A basic course in the foundation of reading designed to provide an introduction to reading instruction and reading programs. A study of the reading skills, techniques and methods which are essential for effective reading will be examined.

Education 292. *Psycholinguistic Implications for the Teaching of Reading* 3 credits

A course designed to acquaint students with theories of the reading process as they relate to children's language acquisition and learning to read. Consideration will be given to the linguistic aspects of teaching reading. (Prerequisite: Educ. 291 or consent of instructor.)

Education 293. *Clinical Diagnosis of Reading Disabilities* 3 credits

A laboratory course designed to assist the reading specialist in becoming proficient in diagnostic skills. Standardized tests and informal assessment instruments will be examined. The student will be required to prepare a Diagnostic Case Report on a student experiencing difficulty in reading. Selected assessment tools will be identified to recommend as appropriate for use by the classroom teacher. (Prerequisite: Ed. 292 or consent of instructor.)

Education 294. *Instructional Practicum* 3 credits

A practicum designed to provide a supervised instructional experience. The student is expected to assess and initiate a program of instruction for a disabled learner. A report of the results of the diagnosis, remediation, progress, and recommendations will be compiled. (Prerequisite: Ed. 293 or Ed. 297 or consent of instructor.)

Education 295. *Reading in the Content Areas* 3 credits

A course designed for acquainting students with procedures of teaching functional reading skills in the elementary and secondary schools. Emphasis will be placed on the specialized vocabularies, concepts and skills which are considered necessary for the comprehension of reading materials pertinent to content area subjects. Various resources and devices will be examined.

Education 296. *Organization and Operation of Reading Programs* 3 credits

A lecture-discussion course dealing with the responsibilities in setting up and directing a school reading program. Attention is given to types of programs and approaches to teaching reading in these different organizational patterns as well as incorporating procedures to support the regular classroom program. Admission with approval of instructor.

Education 297. *Classroom Diagnosis of Reading Problems* 3 credits

The course is designed to examine formal and informal techniques of diagnosis appropriate for use by the classroom teacher. Consideration will be given to identifying skill deficiencies exhibited by students experiencing reading problems. An examination of appropriate diagnostic techniques will be made. Interpretation of the assessment material will be made to determine their effectiveness for specific situations.

Education 299. *Teaching of Study Skills* 3 credits

A course designed to apprise the student of strategies effective in developing desirable study habits essential for learning. Consideration will be given to receptive, reflective, and expressive skills.

Counselor Education

Education 240. *Theories of Counseling* 3 credits

Various counseling theories will be studied. Emphasis will be upon evaluating the various theories and abstracting parts of these theories into a comprehensive overview of the counseling process. Required of all Counselor Education students.

Education 241. *Group Dynamics* 3 credits

A basic understanding of group dynamics and behavior is provided. Processes and patterns of interaction are analyzed primarily from the standpoint of their broad educational significance. The selection, evaluation and use of group counseling methods and materials are discussed. Methods of developing and organizing group programs are also presented. Students also participate in a group experience. Required of all Counselor Education students.

Education 242. *Case Management and Interviewing* 3 credits

This course deals with the application of counseling theory to the practical interview situation. The counseling process and the core elements of a facilitative counseling relationship will be examined. Counselor candidates will begin to develop basic interviewing skills. Required of all Counselor Education students.

Education 242.1. *Utilization of Community Resources* 3 credits

This course examines in detail the role of the counselor in relation to various agencies in the community. Criteria for referral and the referral process are described in depth as are the various aspects of collaboration and cooperation between school and community. Existing community resources are examined and representatives of various agencies present information about their services. Admission by consent of instructor.

Education 242.2. *Family Counseling and Therapy* 3 credits

Family Counseling theories and techniques are presented with special emphasis upon how they might be utilized by secondary school counselors. Although several conceptual models will be explored, the primary focus will be upon a Structural approach to family counseling. (Prerequisite: Ed. 240, 241, 242 and consent of the instructor.) Required of all Counselor Education students.

Education 242.3. *Psychology of Women* 3 credits

A basic understanding of psychological issues currently facing women across the life-span will be provided. Sociological counselors will be discussed as well as counselor intervention techniques.

Education 242.4 *Contemporary Problems of Adolescence* 3 credits

This course explores current concerns and challenges confronting adolescents and young adults. Topics will partially be determined by societal trends, and will cover a range of issues such as adolescent suicide, eating disorders, substance abuse and relationship conflicts. Selected issues will be explored from both a psychological and sociological perspective, with emphasis on implications for developing counselor intervention techniques. Admission is by consent of instructor.

Education 242.5 *Techniques of Consultation* 3 credits

Selected theories of consultation and their application with a variety of consultees will be presented. A careful examination of the process of consultation will be provided as well as ample opportunity for simulations. Strategies for implementation of consultation programs will be discussed, along with the advantages and pitfalls inherent in the use of consultation. Admission is by consent of instructor.

Education 243. *Current Issues in Counseling and Guidance* 3 credits

This is a professional seminar wherein emphasis is placed upon the development of a sensitivity to the educational, sociological and philosophical implications of the counselor's role. This course is designed to provide for a smooth transition to the role of school counselor. Included in the course is a consideration of current ethical, legal, and professional development issues. Required of all Counselor Education students. Admission by consent of instructor.

Education 244.1. *Supervised Counseling Experience I* 3 credits

This course consists of the actual counseling of clients under supervision. A variety of on-site counseling experiences are provided for the student. Required of all Counselor Education students. Admission is only by consent of instructor.

Education 244.2. *Supervised Counseling Experience II* 6 credits

Actual counseling of clients under supervision continues in this course. A variety of on-site counseling and related experiences are provided for students. Required of all Counselor Education students. Admission is only by consent of the instructor and the satisfactory completion of Education 244.1.

Education 246. *Career Development* 3 credits

Psychological and sociological aspects of vocational choice and vocational adjustment will be presented and major theories of career choice and development will be reviewed. Emphasis will be placed upon methods and resources for facilitating career development throughout the lifespan. Career education, computerized information systems, and decision-making methods will be considered along with innovative approaches for special needs populations. Required of all Counselor Education students. Prerequisite: Education 240, 242 and 254.

Education 254. *Use of Tests in Counseling* 3 credits

Emphasis will be placed upon the development of competency in the evaluation, use, and interpretation of tests and inventories used in assessing abilities, achievement, interests and personality. The relationship of informal data to the analysis of individual behavior will be included. Selected instruments will be examined in terms of their design and appropriate utilization. Required of all Counselor Education students. Admission by consent of instructor.

Education 274. *Developmental Psychology* 3 credits

This course provides an understanding of developmental psychology, including theoretical approaches and issues relating to physical, cognitive, personality and moral development with particular emphasis on implication for counselors. Both psychological and sociological impacts on development will be overviewed. Admission by consent of instructor.

Education 275. *Psychology of Adjustment* 3 credits

This course provides an understanding of adjustive behavior, including the discrimination of normal from abnormal behavior and a thorough understanding of sources of stress and stress management. Special attention is given to adjustment problems of a variety of client populations. Admission by consent of instructor.

Mathematics

Math 404. *Modern Algebra for Teachers* *3 credits*

A treatment of groups, rings, etc. culminating in the negative result, Abel's Theorem, that there can be no formula for solving polynomial equations of degree greater than four. Whenever possible, the material shall be related to the various subsets of the real number system covered in the secondary schools.

Math 405. *Linear Algebra and Theory of Equations* *3 credits*

A study of second, third and fourth degree equations and systems of equations. Along with the methods of solution, an attempt will be made to provide the teacher with a backlog of applications for each type in the form of word problems.

Math 406. *Introductory Analysis* *3 credits*

An in-depth study of the concepts and principles of calculus that are generally encountered in a secondary school analysis course. Emphasis will be placed on the development of the concepts of limit, derivative and integral and the various techniques a teacher might utilize in presenting them to a secondary school class. The student need not presently possess facility with calculus as this will develop during the course.

Math 407. *Geometry* *3 credits*

A study of Euclidean geometry including a discussion of methods and materials that teachers may employ in order to generate interest and enhance presentations. Wherever possible, relevant practical applications will be provided. A discussion of certain transformations will also be included.

Math 408. *Probability and Statistics* *3 credits*

An axiomatic approach to probability covering the basic rules, independence and conditional probability, probability functions, normal curve and hypothesis testing.

Math 409. *Introduction to Computing* *3 credits*

A discussion of various secondary school problem-solving techniques that involves the use of computers.



Department of Human Resources

Dr. John K. Stout, Chair

General Information

The Department offers coursework leading to Master of Science degrees in Rehabilitation Counseling, Individual and Group Counseling, Human Resources Administration, and Health Administration.

The applicant for admission to any Departmental program must possess a bachelor's degree from an accredited college or university and provide the Graduate School with evidence of satisfactory undergraduate preparation. The ordinary standard for admission is an undergraduate QPI of at least 2.75 on a grading scale of 4.00. Students falling below this level may submit other evidence of their ability to complete successfully a graduate program, such as grades in other graduate level courses, a record of progressively higher work responsibilities, or scores from the Miller Analogies Test or Graduate Record Examination and may be accepted on a probationary basis. Students accepted on probation cannot enroll for more than six credits in a semester and must obtain a cumulative QPI of at least 3.0 after completing nine credits of coursework to be removed from probation. A personal interview prior to acceptance is required.

A maximum of six graduate credits from another college or university may be accepted for transfer if course relevance can be established, if the coursework was taken within six years of the student's admission to the program, if a grade of at least B was obtained, and is in accordance with other Graduate School policies.

Students in any program may take six credits of electives in any other program within the Department. Election of more than six credits requires the approval of the Director of the program in which the student is enrolled.

Students in any program may enroll for a Directed Study course to pursue an area of interest under the guidance of a faculty member. In extraordinary cases, a regular course may be offered to a student as a reader. Approval of the Director is required for both directed study and reader courses.

Students in all programs must successfully pass a comprehensive examination which may combine written, oral, and experiential components. Application for the comprehensive examination is made when the student registers for the counseling practicum (COUN 341) or administrative issues (HRA 309). The examination is completed at the midpoint of the course.

Application for degree should be made at registration for the last semester of coursework. Degrees are conferred in May, August, and December, but commencement exercises are held in May only.

Students must have a cumulative QPI of at least 3.0 at the end of their prescribed curriculum to receive the master's degree. In addition, all students must maintain a cumulative QPI of at least 3.0 to remain in good academic standing. If a student's cumulative QPI drops below 3.0 he or she is placed on academic probation for a maximum of two academic semesters of coursework. If the student's cumulative QPI has not increased to at least 3.0 after two semesters, he or she is dismissed or may take further coursework for self improvement only.

The student should refer to the Academic Regulations section of the Graduate School Catalog for additional relevant policies.

Health Administration

Dr. John K. Stout, Director

Objective

The Master of Science in Health Administration program emphasizes preparation for and/or advancement in the broad field of health administration. Supervisory and administrative personnel work in a variety of health-related organizations and service delivery systems such as hospitals, long-term care facilities, rehabilitation centers, home health organizations, and various planning and regulatory agencies. Depending on the position, they may be engaged in line supervision of direct service workers or other managers, or they may be involved in staff positions such as planning, community relations, education, training, staff development, personnel, fund raising, and marketing.

Program Objectives

The program is specifically designed to: (1) academically prepare individuals to enter supervisory and administrative positions; (2) enhance the performance of individuals employed in supervisory and administrative positions, but who lack academic training and credentials; and, (3) academically prepare individuals to enter or advance in a variety of staff positions. The Program emphasizes a learning environment wherein the student can acquire academic knowledge, gain practical skills, and engage in self-exploration and personal growth.

Program

The Master of Science in Health Administration program requires 36 credits for degree. The curriculum consists of nine required generic credits focusing on general organizational, financial, and administrative knowledge applicable to staff, supervisory, and administrative positions in most organizations; a minimum 12 required major credits focusing specifically on health services, systems and related issues; and a maximum of 15 elective credits which may include additional health administration courses. Students generally take Organizational Supervision and Personnel courses from the HRA Master's degree program as their elective courses. Up to six elective credits may be taken from Departmental counseling courses or from other departments at the University after consultation with the Program Director. All courses should be chosen to complement and assist in achieving the student's career goals.

Program Requirements

Applicants must have a bachelor's degree with a minimum grade point average of 2.75 on a grading scale of 4.00. International students should score at least 575 on the TOEFL. The Program usually accepts only those applicants who have at least 12 months of professional work experience which may run concurrent with the graduate program. Individuals without work experience may enter the Program, but may be required to enroll in an internship to gain practical experience. These individuals should discuss their employment possibilities with the Program Director during their interview. Six graduate credits from another college or university may be accepted for transfer into the Program if in accordance with Graduate School policies. Students must pass a comprehensive examination which combines written, oral, and experiential components. Application for comprehensive examination is made at the first class of HRA 309 — Administrative Issues and is completed at the mid-point of the course. Students must have an academic average of at least 3.0 to graduate. Applicants should be prepared to discuss their career goals with the Program Director during a personal interview, which is required prior to acceptance, and show how they see the curriculum supporting their longer-term goals.

Scheduling

Courses are offered from 4:30 p.m. - 7:10 p.m. and 7:20 p.m. - 10:00 p.m. Monday through Thursday. Each course meets one night per week in the Fall and Spring semesters. Full-time students typically attend classes two or three nights a week; part-time students, one or two nights a week. The degree can be received in 12 months of full-time academic study, although most students attend on a part-time basis and earn their degree in approximately 24 months. Ordinarily, the degree must be completed within six consecutive years. A

maximum of 30 new students start coursework each Fall and Spring semester. New students may not start coursework in Intersession or during the Summer. Applicants must be accepted by the Graduate School before starting courses. HRA 300 and HRA 301 are generally the first courses taken.

Curriculum and Schedule: Health Administration

		<i>FA</i>	<i>IN</i>	<i>SP</i>	<i>SU</i>
Required Generic Courses					
(9 credits)					
HRA 300	Organization and Administration	X		X	
HRA 301	Financial Administration	X		X	
HRA 309	Administrative Issues	X		X	
Required Major Courses					
(Minimum 12 credits)					
HAD 310	Health Economics and Finance *			X	
HAD 311	Issues in Health Administration **				X
HAD 312	Health Services and Systems **	X			
HAD 313	Legal Aspects of Health Care	X			
HAD 314	Health and Hospital Administration			X	
HAD 315	Marketing Health and Human Services		X		
Electives					
(Maximum 15 credits)					
HRA 320	Managerial Leadership			X	
HRA 321	Motivation and Work Behavior	X			
HRA 322	Program Planning and Evaluation	X			
HRA 323	Individual Behavior in Organizations			X	
HRA 324	Group Behavior in Organizations				X
HRA 325	Productivity Management		X		
HRA 326	Computer Technology ***				X
HRA 330	Personnel Administration			X	
HRA 331	Staff Development		X		
HRA 332	Labor Relations			X	
HRA 333	Compensation and Benefits	X			
HRA 334	Health, Safety, and Security	X			
HRA 335	Employee Assistance Programming				X
HRA 336	Industrial Rehabilitation			X	
HRA 396	Special Topics	By Appointment			
HRA 397	Internship ****	By Appointment			

* Required Course; ** Either 311 or 312 is Required; *** A laboratory fee is charged; **** An insurance fee is charged.

Credits for Degree = 36

Human Resources Administration

Prof. Maggie Lund, Director

Objective

The 36 credit Master of Science program in Human Resources Administration prepares personnel to enter and/or advance in the following two Areas of Application:

ORGANIZATIONAL SUPERVISION This area of application emphasizes preparation for and/or advancement in supervisory and administrative positions in public and private health, education, and human services organizations, agencies, and systems. Supervisory and administrative personnel work with people and need a variety of human, conceptual, and technical skills. They use the processes of planning, organizing, staffing, influencing, and controlling the efforts of individuals and commit the use of organizational resources to achieve organizational goals. In practicing the art of getting things done with and through people, supervisors and administrators are concerned with increasing the effectiveness and efficiency of a department or organization.

PERSONNEL This area of application emphasizes preparation for and/or advancement in human resources systems. These specialists usually work in a staff or consultative capacity in most organizations. Their tasks may involve assessing personnel needs, recruitment, selection, orientation, and training; designing and implementing compensation and benefit systems; employee assessment and career development; developing discipline and grievance-handling systems; working with unions or union activity; ensuring the organization's compliance with equal employment opportunity and other governmental regulations; designing and implementing programs to ensure employee health and safety; and, providing assistance to employees with personal problems that influence their work performance.

Program Objectives

The program is specifically designed to: (1) academically prepare individuals to enter supervisory and administrative positions; (2) enhance the performance of individuals employed in supervisory and administrative positions, but who lack academic training and credentials; and, (3) academically prepare individuals to enter or advance in a variety of staff positions and departments. The Program emphasizes a learning environment wherein the student can acquire

academic knowledge, gain practical skills, and engage in self-exploration and personal growth.

Program

The Human Resources Administration curriculum has Generic courses, courses distributed in two Areas of Application, and Elective courses. The three Generic courses contain knowledge applicable to staff, supervisory, and administrative positions in most organizations and are required of all students. Application Area 1 — Organizational Supervision and Area 2 — Personnel contain courses from which four are required to constitute an Area of Application. There are 21 required credits in the curriculum: nine credits of generic coursework and twelve credits from either Areas 1 or 2 depending on the student's interest in specialization. The remaining 15 credits are elective and may be taken from the other Area of Application courses, from Elective courses, or from other departmental or University courses, after consultation with the Program Director. These courses should be chosen to complement the student's Area(s) of Application. Students generally elect their Area(s) of Application at the time of acceptance into the Program.

Areas of Application

Areas of Application should be considered similar to the concept of a major; that is, an area in which the student has developed an area of expertise. The student normally elects an Area of Application on the basis of interest and career goals although it is not required that any Area(s) of Application be elected. The Program contains two Areas of Application. Area 1 — Organizational Supervision is the most general (least specialized) of the two Areas of Application and provides the broadest academic preparation within the field of administration. Area 2 — Personnel is more specialized and prepares the student for a more limited area(s) of application. The student should consider how electing two Areas of Application can help in reaching their career goals. The Area(s) of Application are shown on the student's transcript.

Program Requirements

Applicants must have a bachelor's degree with a minimum grade point average of 2.75 on a grading scale of 4.00. International students should score at least 575 on the TOEFL. The Program usually accepts only those applicants who have at least 12 months of professional work experience which may run concurrent with the graduate program. Individuals without work experience may enter the Program, but may be required to enroll in an internship to gain practical experience. These individuals should discuss their employment possibilities with the Program Director during their

interview. Six graduate credits from another college or university may be accepted for transfer into the Program if in accordance with Graduate School policies. Students must pass a comprehensive examination which combines written, oral, and experiential components. Application for comprehensive examination is made at the first class of HRA 309 — Administrative Issues and is completed at the mid-point of the course. Students may take a maximum of six elective credits from other non-departmental master's programs at the University, after consultation with the Program Director. Students must have an academic average of at least 3.0 to graduate. Applicants should be prepared to discuss their career goals with the Program Director during a personal interview, which is required prior to acceptance, and show how they see the curriculum supporting their longer-term goals.

Scheduling

Courses are offered from 4:30 p.m. - 7:10 p.m. and 7:20 p.m. - 10:00 p.m. Monday through Thursday. Each course meets one night per week in the Fall and Spring semesters. Full-time students typically attend classes two or three nights a week; part-time students, one or two nights a week. The degree can be received in 12 months of full-time academic study, although most students attend on a part-time basis and earn their degree in approximately 24 months. Ordinarily, the degree must be completed within six consecutive years. A maximum of 30 new students start coursework each Fall and Spring semester. New students may not start coursework in Intersession or during the Summer. Applicants must be accepted by the Graduate School before starting courses. HRA 300 and HRA 301 are generally the first courses taken.



Dr. John Stout, Chairman, Department of Human Resources & Director of the program in Health Administration.

Curriculum and Schedule: Human Resources Administration

		<i>FA</i>	<i>IN</i>	<i>SP</i>	<i>SU</i>
Required Generic Courses					
(9 credits)					
HRA 300	Organization and Administration	X		X	
HRA 301	Financial Administration	X		X	
HRA 309	Administrative Issues	X		X	
Areas of Application					
Area 1 — Organizational Supervision					
(Minimum 12 credits)					
HRA 320	Managerial Leadership			X	
HRA 321	Motivation and Work Behavior	X			
HRA 322	Program Planning and Evaluation	X			
HRA 323	Individual Behavior in Organizations			X	
HRA 324	Group Behavior in Organizations				X
HRA 325	Productivity Management		X		
HRA 326	Computer Technology *				X
Area 2 — Personnel					
(Minimum 12 credits)					
HRA 330	Personnel Administration			X	
HRA 331	Staff Development		X		
HRA 332	Labor Relations			X	
HRA 333	Compensation and Benefits	X			
HRA 334	Health, Safety, and Security	X			
HRA 335	Employee Assistance Programming				X
HRA 336	Industrial Rehabilitation			X	
Electives					
HAD 310	Health Economics and Finance			X	
HAD 311	Issues in Health Administration				X
HAD 312	Health Services and Systems	X			
HAD 313	Legal Aspects of Health Care	X			
HAD 314	Health and Hospital Administration			X	
HAD 315	Marketing Health and Human Services		X		
HRA 396	Special Topics	By Appointment			
HRA 397	Internship **	By Appointment			

* A laboratory fee is charged; **An insurance fee is charged.

Credits for Degree = 36

Rehabilitation Counseling

Dr. David W. Hall, Director

Objectives

The objective of the Rehabilitation Counseling Program is to prepare professionals for the direct entry into and/or advancement in counseling-related staff positions in public and private rehabilitation organizations, services, and systems.

More specifically, the Program is designed to: (1) enhance knowledge of rehabilitation concepts and practices; (2) provide individuals with the counseling skills necessary for functioning in rehabilitation settings; (3) prepare individuals for certification as rehabilitation counselors; and (4) enhance individuals' employability in entry level or advanced clinical positions in rehabilitation settings.

The Program offers a learning environment in which the student can acquire the academic competencies of the profession and refine them through practical experience. The Program also provides a facilitative process through which the student can increase self-understanding, self-confidence, and personal effectiveness.

Profession

The rehabilitation counselor is an intervention specialist who either delivers or arranges to deliver therapeutic services to a variety of handicapped persons to assist the individual reach mutually agreed upon goals. The specific roles and functions of the rehabilitation counselor, the services provided, and the goals established will vary depending on the agency or organization in which the counselor is employed. In the typical vocational rehabilitation agency, medically, mentally, emotionally, or socially handicapped individuals are provided a variety of psychological, medical, social and vocational services to assist the person achieve independence in living and in becoming competitively employed.

Employment Opportunities

The *Occupational Outlook Handbook*, a publication of the U.S. Department of Labor, projects the employment opportunities in rehabilitation counseling to be good throughout the country through the 1990's. Follow-up data from over 500 graduates of the Program indicate that approximately fifteen percent received doctorates or are presently working on doctorates in rehabilitation or some related counseling profession. The overwhelming majority of the other graduates are employed in over thirty states throughout the country in a variety of public and private community agencies and organizations

dealing with addictive problems; correctional rehabilitation; physically, auditorially, or visually handicapped; the mentally retarded or emotionally disturbed, the learning disabled; the socially-culturally disadvantaged; and geriatric clients.



Curriculum

The Rehabilitation Counseling Program is a two year, four semester, 48 credit curriculum. It is conceptualized as five curricular modules; professional foundations; medically-related disability groups; industrial rehabilitation; counseling systems; and practical experience.

A number of credits are specified in each module and totals 42 credits for the entire program; however, only 39 credits involve specified required courses. There are 9 elective credits in the program.

The program ordinarily is 48 credits in length; however, students may select one or more of the following options to fulfill degree requirements.

Option (1): Graduates of the University of Scranton in the Health and Human Services or Health & Human Services Administration curriculum may petition for a waiver of COUN 302 — Case Management and Interviewing and COUN 331 — Counseling Theories. A grade of B or better in the undergraduate equivalent course is required. With this option, 42 credits are required for the degree.

Option (2): Students with a minimum of two years relevant professional work experience and who demonstrate competence in counseling skills in COUN 341-Practicum, may petition for waiver of COUN 343-Internship. Students considering this option should consult with the Program Director since internship waiver has implications for eligibility to sit for the national examination for Certified Rehabilitation Counselor. With this option, 45 credits are required for the degree.

Option (3): Students who possess the necessary personal and academic attributes may elect to complete a Scholarly Paper that may involve quantitative research or theoretical exposition. Approval by the Program Director and Paper advisor is required. With this option, 45 credits are required for the degree.

It should be emphasized that, regardless of the option(s) selected, the minimum number of credits required for the degree is 42.

Curriculum and Course Schedule: Rehabilitation Counseling

FA IN SP SU

Professional Foundations

(12 credits required; 12 credits specified)

+*COUN 301	Rehabilitation Services & Issues	X			
*COUN 302	Case Management and Interviewing	X			
*COUN 303	Use of Tests in Counseling			X	
*COUN 304	Research in Counseling	X		X	

Medically Related Disability Groups

(3 credits required; 3 credits specified)

COUN 311	Addictive Behaviors		X		
*COUN 312	Physical Disabilities			X	
COUN 313	Psychiatric Disorders			X	

Industrial Rehabilitation

(6 credits required; 3 credits specified)

*COUN 321	Vocational Aspects of Disability	X			
COUN 336	Industrial Rehabilitation			X	
HRA 330	Personnel Administration			X	
HRA 335	Employee Assistance Programming				X

Counseling Systems

(9 credits required; 6 credits specified)

*COUN 331	Counseling Theories			X	
*COUN 332	Behavioral Counseling	X			
COUN 333	Group Dynamics		X		
COUN 334	Family Counseling and Therapy	X			
COUN 335	Stress Management	X			

Practical Experience

(12 credits required; 12 credits specified)

*COUN 341	Practicum in Counseling	X			
COUN 342	Practicum in Group Counseling	X	X		
#*COUN 343	Internship in Counseling			X	X

* Required courses

+* A special materials fee of \$25.00 is charged for COUN 301.

#* An insurance fee is charged for COUN 343.

Directed Study

(0 credits required)

COUN 300	Directed Study	X	X	X	X
COUN 399	Special Topics	X	X	X	X

Total Credits for Degree **48**

Total Specified Credits: 36

Total Elective Credits: 12

Certification

Rehabilitation Counseling courses are approved by the Commission on Rehabilitation Counselor Certification (CRCC) toward certification as well as for certification maintenance credits.

Financial Aid

Limited financial aid has been available in the form of traineeships from the Rehabilitation Services Administration. The full-time student traineeship may pay the student's tuition, fees, and provide a monthly stipend. Application forms are available from the Department of Human Resources.

THE REHABILITATION COUNSELING PROGRAM IS
ACCREDITED BY THE COUNCIL ON
REHABILITATION EDUCATION (CORE)

Individual and Group Counseling

Dr. David W. Hall, Director

Objective

The objective of the Individual and Group Counseling Program is to prepare professionals for direct entry into and/or advancement in counseling related staff positions in public and private health and human service organizations and systems.

More specifically, the Program is designed to: (1) enhance knowledge of counseling concepts and practices; (2) provide individuals with the counseling skills necessary for functioning in agency settings; (3) prepare individuals for certification as counselors, and (4) enhance individuals' employability in entry level or advanced clinical positions in health and human service settings.

The Program offers a learning environment whereby the student can acquire the academic competencies of the profession and refine them through practical experience as well as to provide a facilitative process through which the student can increase self-understanding, self-confidence, and personal effectiveness.

Profession

According to the American Association for Counseling and Development, counselors are skilled professionals who are trained to help others gain a perspective on their lives, explore options, make decisions, resolve problems, and take action. Counselors work with individuals, couples, families and groups of persons who experience academic, behavioral, career, emotional, interpersonal, and social



problems, depending upon the agency or organization in which the counselor is employed. By establishing an effective and trusting helping relationship, a counselor assesses a client's strengths and resources and helps the client increase life-management skills so that mutually agreed upon goals may be achieved.

Employment Opportunities

According to the *Occupational Outlook Handbook*, U.S. Department of Labor, employment for counselors who work in the fields of mental health, marital and/or family difficulties, alcoholism, drug abuse, and aging will grow faster than average through the mid 1990's. Private practices, community and social service agencies, and human development and employee assistance programs in private industry are among the settings in which growth in counselor employment will occur.

Curriculum

The Individual and Group Counseling Program requires a minimum of 42 credits for students admitted after June 1, 1988. Twenty-seven credits are required counseling courses and 15 are electives. Six credits of electives may be taken from outside the Individual and Group Counseling Curriculum. Students should discuss their choice of electives with their mentor to insure relevance to future employment settings.

A six credit internship is also offered to those students who have no counseling experience prior to entering the program, or who may need an internship for counseling credentialing. It may be taken only after completion of 36 credits of other coursework.

Curriculum and Course Schedule: Individual and Group Counseling

FA IN SP SU

Required (27 credits)

COUN 302	Case Management and Interviewing	X			
COUN 303	Use of Tests in Counseling			X	
COUN 304	Research in Counseling	X			
COUN 331	Counseling Theory			X	
COUN 333	Group Dynamics		X	X	
COUN 341	Practicum in Counseling	X		X	
COUN 351	Professional Issues	X			

Choose at least 6 credits from the following:

COUN 352	Social and Cultural Issues				X
ED 246	Career Development	X			
ED 274	Developmental Psychology			X	

Electives (15 credits)

Special Techniques

COUN 332	Behavioral Counseling	X			
COUN 334	Family Counseling and Therapy	X			
COUN 335	Stress Management	X			

Special Populations

COUN 311	Addictions		X		
COUN 312	Physical Disabilities			X	
COUN 313	Psychiatric Disorders			X	

Practical Experience

COUN 342	Practicum in Group Counseling	X	X		
*COUN 343	Internship in Counseling (6 credits)			X	X

Directed Study

COUN 300	Directed Study	X	X	X	X
COUN 399	Special Topics	(Offered Periodically)			

* An insurance fee is charged for COUN 343.

Electives Outside of IGC (6 allowed)

Up to 6 credits of electives may be taken from courses outside of the Individual and Group Counseling program. Students should consult their mentor for suggestions regarding appropriate electives.



COURSE DESCRIPTIONS

Health and Human Resources Administration

HRA 300. *Organization and Administration* *3 credits*
The planning, organizing, staffing, influencing, and controlling functions of administration.

HRA 301. *Financial Administration* *3 credits*
The functions of finance including accounting conventions, financial statements, capital budgeting and financing, revenue and expense budgets, cash flow and cash management.

HRA 309. *Administrative Issues* *3 credits*
A case study and role playing seminar in issues and problems in supervision and administration. Graded satisfactory (pass) and unsatisfactory (fail). (Prerequisite: 24 HRA and HAD credits or approval by Program Director.)

HAD 310. *Health Economics and Finance* *3 credits*
Health economics and financial aspects related to financing health services and systems (Pre-requisite: HRA 301 — Financial Administration).

HAD 311. *Issues in Health Administration* *3 credits*
Contemporary issues in health care and health administration related to the changes in the health delivery system resulting from changes in health and hospital reimbursement system.

HAD 312. *Health Services and Systems* *3 credits*
Historical development of health services and systems, health insurance, government regulation, and societal factors affecting the organization and delivery of health services.

HAD 313. *Legal Aspects of Health Care* *3 credits*
Impact of legal factors affecting patient/client care and the operations and administration health and hospital systems.

HAD 314. *Health and Hospital Administration* *3 credits*
Operating and administrative issues and problems in health and hospital systems with emphasis given to hospital operation, organization, and administration.

HAD 315. *Marketing Health and Human Services* *3 credits*
Principles of marketing and their application including market research, market targets, market segmentation and strategic planning as well as marketing's role in management.

HRA 320. *Managerial Leadership* *3 credits*
The interaction of the manager, organization, and employee with emphasis on managerial roles and functions, motivational approaches and theories, leadership styles and behaviors, and their relationship to productivity and job satisfaction.

HRA 321. *Motivation and Work Behavior* *3 credits*
Models and theories of work motivation with their implications for managers and organizational characteristics and the design of jobs and work systems. The inter-relationships between motivation, productivity, and job satisfaction.

- HRA 322. *Program Planning and Evaluation*** **3 credits**
 Program planning and evaluation models, strategies, and processes.
- HRA 323. *Individual Behavior in Organizations*** **3 credits**
 Behavior of the individual with emphasis on interviewing, communications, and counseling. Personnel, counseling, and management theories are integrated into workable supervisory models and strategies.
- HRA 324. *Group Behavior in Organizations*** **3 credits**
 An understanding of group behavior and dynamics with emphasis on group membership and leadership, team development, communications, organizational development, decision-making, and conflict resolution.
- HRA 325. *Productivity Management*** **3 credits**
 The interface of people, technology, and systems is examined with emphasis on increasing organizational effectiveness and efficiency.
- HRA 326. *Computer Technology*** **3 credits**
 A “hands-on” introduction to computer terminology, technology, and applications with emphasis on electronic spreadsheets and database management software. A computer fee is charged.
- HRA 330. *Personnel Administration*** **3 credits**
 Personnel functions of organizations ranging from recruitment and selection to adjustment and training and the legal and regulatory environment affecting personnel operations.
- HRA 331. *Staff Development*** **3 credits**
 Focuses on planning, implementing and evaluating staff training and development.
- HRA 332. *Labor Relations*** **3 credits**
 Organized labor in organizations including labor relations, union security and contracts, collective bargaining, grievance processing, and third party resolution.
- HRA 333. *Compensation and Benefits*** **3 credits**
 Concerns all of the ways in which organizations reimburse employees for their effort and the legal and regulatory environment affecting compensation and benefits.
- HRA 334. *Health, Safety, and Security*** **3 credits**
 Deals with those organizational activities and the regulatory environment that relate to the occupational health, safety, and security of employees.
- HRA 335. *Employee Assistance Programming*** **3 credits**
 Approaches of organizations to promote employee health and to provide assistance to employees with a variety of problems that interfere with productivity.
- HRA 336. *Industrial Rehabilitation*** **3 credits**
 Case management of the industrially injured and the physical, psychological and vocational factors affecting re-employability.
- HRA 396. *Special Topics*** **3 credits**
 Topics of current interest are offered on a variable basis including, but not restricted to, career development, stress management, and interpersonal negotiations.

HRA 397. *Internship* 3 credits

A 150 clock hour placement in a staff or administrative position which is completed during a regular academic semester or session. Graded satisfactory (pass) and unsatisfactory (fail). (Prerequisite: 24 HRA and/or HAD credits or approval by Program Director.) An insurance fee is charged.

HRA 398. *Directed Study* 3 credits

Allows the student to pursue an area of interest under the guidance of a faculty person. Approval by the Program Director is required. An administrative fee is charged.

Rehabilitation Counseling & IGC

COUN 301. *Rehabilitation Services and Issues* 3 credits

Identification of the principles underlying rehabilitation, including history, philosophy, structure, and legislation. Study of the rehabilitation process from referral through follow-along activities. Concepts regarding legal issues, professional ethics, consumer advocacy, personal philosophy, community organization and the team concept are presented through a combination of guest lecturers and seminars. Field experience in supported employment with business and industry will be required which will be arranged by the instructor to 10 local establishments throughout the semester. (\$25.00 *Materials Fee*).

COUN 302. *Case Management and Interviewing* 3 credits

The role of the counselor as a case manager or coordinator of services is examined. A case study approach is utilized.

COUN 303. *Use of Tests in Counseling* 3 credits

Focuses on the statistical and research basis of psychological testing. Psychological tests are conceptualized and the student gains familiarity with the clinical use of these tests in rehabilitation counseling.

COUN 304. *Research in Counseling* 3 credits

An introduction to research issues and methodology in the field of counseling. Emphasis is placed on gaining the knowledge necessary to evaluate the conclusions of published research.

COUN 311. *Addictive Behaviors* 3 credits

The problems of drug and alcohol dependency are examined. Treatment approaches and facilities are illustrated and discussed with guest lecturers and seminars. A field trip to a local treatment facility is required.

COUN 312. *Physical Disabilities* 3 credits

Unique problems of various disability groups encountered by the counselor. Psychodynamic principles underlying personal adjustment to disability with emphasis on client needs, conflicts, and adjustment mechanisms. Environmental adjustment problems in relation to the nuclear family and community.

COUN 313. *Psychiatric Disorders* 3 credits

An examination of the problems associated with mental and emotional disturbances. Emphasis is placed on contemporary modalities of treatment as they relate to community mental health programs. Critical issues in mental health including the dynamics behind these issues will be discussed.

COUN 321. *Vocational Aspects of Disability* 3 credits

Theories and models of vocational choice, career development, vocational counseling, and selected vocational assessment measures are presented. An in-depth study of placement and rehabilitation problems and issues dealt with by the counselor in placing individuals with disabilities is included. Job analysis, industrial visits as well as a 1-day placement workshop are required.

COUN 331. *Counseling Theories* 3 credits

Selected theories and techniques of counseling are discussed and examined through a combination of lecture, discussion, and role-playing activities. Application to different types of clients is discussed. (Prerequisite, COUN 302).

COUN 332. *Behavioral Counseling* 3 credits

The literature on behavior modification and therapy is examined with particular emphasis on the application of techniques to varied clinical populations. (Prerequisite: COUN 302).

COUN 333. *Group Dynamics* 3 credits

Selected theories, techniques, and research in group counseling, and dynamics are discussed with particular emphasis on application in treatment and supervision.

COUN 334. *Family Counseling and Therapy* 3 credits

The systems and communications theories of family therapy will be presented with specific attention to the structural and strategic family therapy approaches. A variety of family therapy techniques and stages will be learned through the use of role play and videotaping. The utilization of family therapy will be discussed.

COUN 335. *Stress Management* 3 credits

Focuses on stress, the nonspecific response of the body to any demand, which affects thoughts, emotions, and the body. Stress-induced diseases of adaptation (the psychosomatic warning signs such as hypertension, gastrointestinal disorders, and nervous disturbances) along with the stress-related thought disorders and emotional disturbances are examined.

COUN 336. *Industrial Rehabilitation* 3 credits

Focuses on case management of the industrially injured. The physical, psychological, and vocational factors affecting employability principles and practices of private sector rehabilitation, selective job placement/job modification techniques, and vocational testimony are discussed. Case examples are utilized. (Prerequisites: COUN 301, 302, & 321).

COUN 341. *Practicum in Counseling* 3 credits

Focuses on necessary and desirable counseling skills, development of counseling relationships, and case conceptualization. Practical application of counseling theories and techniques, psychological testing, and vocational development theory is emphasized. (Prerequisites: COUN 302, 303, 304, 331).

COUN 342. *Practicum in Group Counseling* 3 credits

Focuses on necessary and desirable group counseling skills, the development of group environments and the use of group techniques for generating individual change. An advanced personal group experience under direction of the faculty is an ongoing part of this practicum. Students will be admitted to this practicum only by consent of faculty supervisor. (Prerequisite: COUN 333).

COUN 343. *Internship in Counseling*

6-9 credits

Full time placement in a community agency, facility or institution involving 600 clock hours of supervised experience. These assignments may include work in mental health, drug and alcohol, family service, aging, or mental retardation facilities. (Prerequisites: COUN 302, 304, 331, 333, & 341). An insurance fee is charged.

COUN 300. *Directed Study*

3 credits

Allows the student to pursue an area of interest under the guidance of a faculty member. A fee, in addition to tuition charges, may be charged. Approval of the faculty member and Program Director is required.

**COUN 351. *Professional Issues in Individual
and Group Counseling***

3 credits

Focuses on the underlying philosophical, historical, professional, legal, and ethical issues involved in the profession of counseling. Designed to acquaint the student with important issues in the field of professional counseling and to help the student establish a sense of professional identity.

COUN 352. *Social and Cultural Issues*

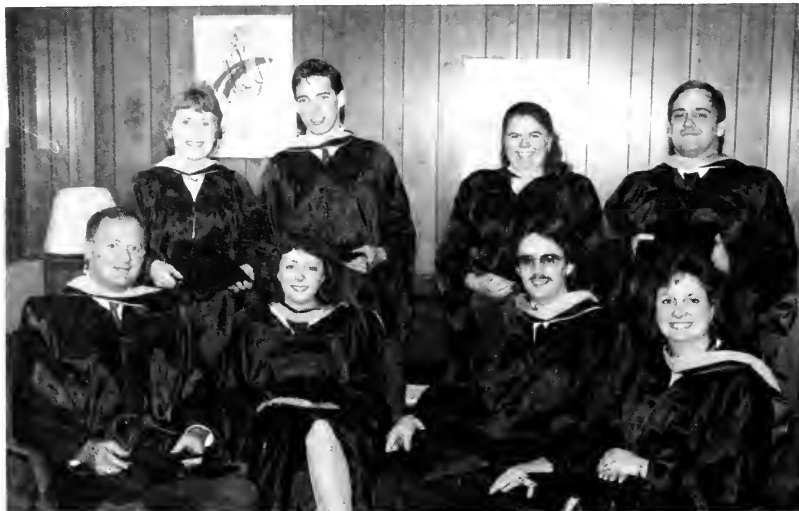
3 credits

Focuses on current social and cultural issues which shape human behavior and affect the practice of counseling. Issues such as the human liberation movement, aging, sexuality, drug abuse, unemployment, poverty, and crime are addressed.

COUN 399. *Special Topics*

3 credits

Selected topics of current interest in the field of counseling are offered on a variable schedule.



The 1988 graduation class had four family teams graduating together: mother and son, Kathleen M. Bowman and Michael B. Walsh (upper left); father and daughter, Joseph W. Ryan and Marie V. Ryan (lower left); and two husband-wife teams — Mary B. Walsh and Anthony A. Dalasio (upper right) and Diana L. Trygar and Richard M. Trygar, Jr. (lower right).

Business Administration (MBA) Program

Dr. Joseph R. Zandardski, Director

Requirements

Admission

The MBA program seeks to attract students of high intellectual caliber and leadership potential, and to qualify them for management positions and/or prepare them for further study. Admission is based on the following criteria: performance on the Graduate Management Admission Test (GMAT), overall grade point average, rank in graduating class, managerial experience and other earned graduate degrees.

Applicants should have a total of at least 975 points based on the formula: $200 \times \text{the undergraduate G.P.A.} + \text{GMAT score}$. Foreign students, whose native language is not English, are required to demonstrate their proficiency in English by achieving a score of at least 500 in the TOEFL.

Application should be made one month in advance of the entering dates in September, February, and June.

Graduate Management Admissions Test

This examination is an aptitude test designed to measure certain mental abilities that have been found to be important in the study of business at the graduate level. This test is required of all students.

Application forms for the GMAT may be obtained from the Office of Career Services or by writing to the Educational Testing Service, Box 966, Princeton, New Jersey 08540. Applicants should be registered with ETS to take the exam at least four weeks prior to the testing date. The exam will be administered on this campus on the following dates: 10-21-89, 1-27-90, 3-17-90, 6-16-90.

Program of Study

The MBA curriculum is designed to offer studies in business beyond the undergraduate level and includes foundation courses, core courses and advanced electives. The MBA degree requires completion of 12 graduate courses (36 credits) for the person with all background courses already completed. Additional (foundation) courses may be required to provide appropriate background for students with non-business undergraduate majors.

Students may specialize in Accounting, Finance, Production and Operations Management, or Marketing, or they may choose the General Area.

A student who possesses an undergraduate degree in business can normally complete the MBA program by completing 36 credits in the core and advanced elective courses. Students with non-business undergraduate degrees may be required to complete some or all of the foundation courses.

Curriculum

The curriculum is designed to conform to AACSB standards. Courses are given at three levels (Foundation, Core, and Advanced Electives) in several functional areas. *Students must rigidly observe the prerequisites for each course.*

MBA students may declare a major or specialization in the following areas:

- Accounting
- Finance
- Marketing
- Production & Operations Management

A “specialization” consists of a minimum of three advanced courses (9 credits) in a functional area. An additional advanced course (3 credits) may be taken either in that same functional area or in another functional area.

The student may pursue a “double major” by taking the required number of advanced electives (3 courses, 9 credits) in each major area.

It is also possible for the student to declare for the MBA: General (i.e., no specific major), thereby maximizing flexibility in the selection of advanced electives. The student in the MBA: General program takes four advanced courses (12 credits) selected in any combination from the various functional areas.

Foundation Courses

The student must complete all of the Foundation courses listed below, in addition to the MBA courses. Foundation courses are ordinarily taken at the undergraduate level. Students with an undergraduate major in Business will ordinarily have completed all of these courses. Students with non-business undergraduate majors will have often completed at least some of the Foundation courses. Any Foundation courses required of a student will be identified in the letter of admission to the program, based on an examination of the student's transcripts.

Foundation courses may be completed either at the University of Scranton or at another accredited institution. There is no limit to the number of Foundation course credits which may be taken at another accredited institution and grades in Foundation courses do not enter into the calculation of the graduate QPI. After admission to the program, foundation and MBA courses may be taken simultaneously as long as prerequisite requirements are not being violated.

Foundation Courses

<i>Areas Covered</i>	<i>U. of S. Undergraduate Courses</i>
Managerial and Financial Accounting	Acc. 3 & 4 OR Acc. 101
Calculus	Math 6 & 7 OR QMS 101
Statistics	QMS 15 & 109 OR QMS 102
Intro. Marketing	Mkt. 107
Corporation Finance	Fin. 110
Micro & Macro Economics	Eco. 11 & 12 OR Eco. 101
Organizational Theory	Mgt. 108
Business Law	Mgt. 9

Computer Literacy: Additionally, many courses in the MBA program assume a knowledge of: 1) spreadsheet techniques and applications, 2) introduction to database management, and 3) introduction to VAX. Students lacking computer background should inquire into University of Scranton continuing education courses.

MBA Core Courses — 8 courses (24 credits)

Students will complete all of the MBA Core courses listed below. A student with an undergraduate major in a particular area may have the Core course requirement corresponding to that major waived. In that case, the student substitutes any elective course for the Core course which was waived.

Students admitted *after* February 1, 1989, will take QMS 341 and 345 as part of their Core requirements rather than QMS 342 and 343. Students admitted before February 1, 1989, may select two courses from QMS 341, 342, 343 and 345 in completing their core course requirements.

MBA Core Courses

Acc. 325	Accounting for Management
Mgt. 350	Organizational Behavior
Mkt. 360	Marketing Management
Fin. 380	Financial Management
Eco. 305	Managerial Economics
Mgt. 390	Business Policy
QMS 341	Operations Management
QMS 345	Management Information Systems

Advanced Electives — 4 courses (12 credits)

Advanced elective or “specialization” courses are those numbered 400 and above in the listing of Course Descriptions which follows. The student must take a minimum of four advanced elective courses (12 credits), the particular selection of courses depending on the student’s area of specialization. Completion of three courses (9 credits) in one area constitutes a specialization. The Core course in a functional area must be completed before taking advanced electives in that area.

New Requirement: Students admitted after September 1, 1989, must take at least one international course among their advanced electives. Students may choose from the following:

Acc 425, Mgt 456, Mkt 463, and Fin 484

The international course may be in the student’s area of specialization or in some other area.

Transfer of Credits

A maximum of six graduate credits may be transferred to the University of Scranton. For other regulations related to the transfer of graduate credits, see page 17 of this catalog. There is no limit on the number of Foundation course credits which may be transferred.

Class Schedules

All classes are conducted in the evening. Time slots are 4:30 -7:10 and 7:20 - 10:00 . Each course meets one night per week. Students may attend either on a part-time or full-time basis. Most part-time students take two courses each Fall and Spring term. Most full-time students take 3-4 courses each Fall and Spring term, plus 1-2 courses each Summer and Intersession term.

Most classes are conducted in the new Hyland Hall, at the corner of Jefferson and Linden Streets, directly across from O’Hara Hall.

Computer Facilities

Computing facilities available exclusively for student use include a VAX minicomputer with 41 terminals; 8 PC labs with a total of approximately 100 PC’s; sign-out software including Lotus 1-2-3, WordPerfect, dBase III Plus, WordStar, and a variety of other packages; printers include HP Laser Jets, dot matrix, and HP plotters; standard statistical packages are available on the VAX.

For a more detailed listing of computer facilities, see pages 22-27 of this catalog.

Graduate Assistantships

Approximately 10 graduate assistantships are available for full-time MBA students each year. The assistants may work with faculty in the School of Management or in University Computing Systems. Assistants receive a stipend plus waiver of tuition.

Course Descriptions — MBA

Foundation Courses

Eco 11 & 12. Principles of Econ I & II

Each 3 credits

Determinants of aggregate economic activity, monetary and banking system, the composition and fluctuation of national income as influenced by monetary and fiscal policy; operation of the price system as it regulates production, distribution and consumption, international economics.

Eco 101. Essentials of Macro-Micro

3 credits

This course is intended only for students needing prerequisites in economics. The course will develop the theory of markets and will then focus on the problems that arise from market failures and the issues surrounding government solutions. The problem areas to be covered will include monopoly power in product and labor markets, the need for consumer protection, economic instability and inequity of market results.

Acc 3. Financial Accounting

3 credits

(For non-accounting majors) A survey of the topics in Acc 1 and 2. Coverage is directed toward the reporting of financial information to interested parties. 3 hours lecture.

Acc. 4. Managerial Accounting

3 credits

(For non-accounting majors) (Prerequisite, Acc. 3) Accounting techniques required in compiling and interpreting selected data for decision making. Includes such areas as cash and working capital flows, profit planning, statement analysis, capital investment decision, planning and controlling operations. 3 hours lecture.

Acc 101. Survey of Managerial and Financial Accounting

3 credits

This course is intended only for students needing prerequisites in accounting. The course will cover reporting financial information and accounting techniques for decision making, planning and controlling operations.

Math 6 & 7. Quantitative Methods I & II

Each 3 credits

Finite mathematics covering functions and graphs, matrix methods, linear programming and probability, differential and integral calculus.

Qms 15. Statistics for Business I

3 credits

(Prerequisite, Math 6) An introduction to the elements of probability theory. The major probability distributions are covered with an emphasis on business applications. Basic concepts in decision theory are also introduced. 2 hours lecture and 1 hour lab.

Qms 109. Introduction to Management Science

3 credits

(Prerequisite, Math 7 & Qms 15). A survey of the quantitative techniques which are used by modern managers. Topic coverage will focus on model building, linear and non-linear programming methods and simulations. Emphasis placed on the use and limits of these quantitative methods.

Qms 101. Quantitative Methods I

3 credits

An introduction to various mathematical tools used in the solution of business problems. Topics include: sets, vectors, matrices, system of linear equations; functions; differential calculus of single and several variables, classical optimization and integral calculus. Introduction to computer software and its use in business.

Qms 102. *Quantitative Methods II*

3 credits

(Prerequisite, Qms 101 or its equivalent) Sample space, basic probability concepts, random variables, discrete and continuous probability distributions, sampling distributions. Linear programming problem formulation. Simplex method. Duality and sensitivity analysis. Transportation and assignment problems.

Mgt. 108. *Organization and Management*

3 credits

The major concepts of managerial action dealing with planning, organizing, directing and controlling. Knowledge of these key aspects of the management process will provide the student with a framework for decision making. 3 hour lecture.

Mkt. 107. *Managerial Marketing*

3 credits

Managerial analysis of the marketing activities in business firms and institutions, including issues on macroenvironment, consumer behavior and international markets. Emphasis on segmenting target markets and developing marketing policies, such as product introduction, promotional campaigns, channels of distribution and pricing targets. 3 hours lecture.

Fin 110. *Corporation Finance*

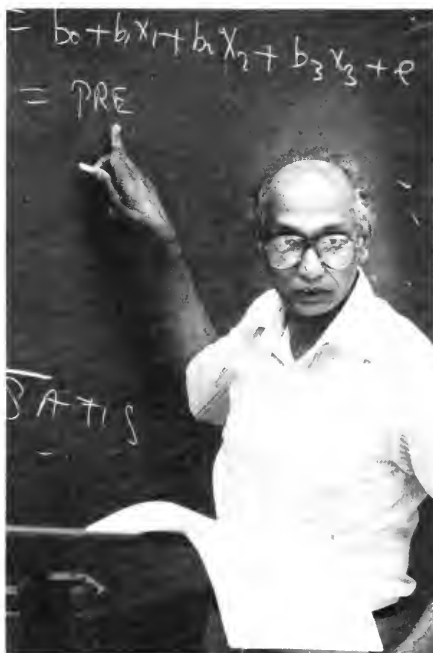
3 credits

(Prerequisite, Acc 2 or 4) A comprehensive study of the financing decision within a corporation. Analysis of risk and return, capital budgeting under conditions of uncertainty and financial structure.

Mgt. 9. *Legal Environment*

3 credits

The nature, sources, formation and application of law. The judicial function, the court system, litigation and other methods of resolving disputes, constitutional law; legislation, law from judicial decisions, law by administrative agencies, regulation of business activity from taxation of business. Introduction to the law of contracts, antitrust laws, business organizations and security regulation, the law of employment, consumer protection, environment and pollution control.



Dr. Prasadarao Kakumanu, Professor of Quantitative Management Systems, specializes in operations research and information systems.

M.B.A. Core Courses

Eco 305. *Managerial Economics* 3 credits

(Prerequisite, Eco 11 & 12 or Eco 101) An intensive study of the problems of value and costs, including demand theory, empirical demand analysis, production theory, cost theory, linear programming applications in resource allocation and cost analysis, empirical cost analysis, market structure and pricing theory, pricing practice and the role of government in the private economy.

Acc 325. *Accounting for Management* 3 credits

(Prerequisite, Acc 101 or Acc 4) Emphasis is placed on ways to use, analyze, and interpret accounting data in planning and controlling organizational activities. Selected techniques required for analysis and managerial decision making are introduced.

Qms 341. *Operations Management* 3 credits

(Prerequisite, Qms 15 and Qms 109, or Qms 102) This course is designed to emphasize the strategic importance of operations management to the overall performance of the enterprise. Topics include: product and process planning and design, forecasting, facility location and layout, production staffing, job design and work measurement, capacity planning, aggregate planning, inventory management, requirements planning, operations scheduling, Just-in-time, and quality assurance.

Qms 342. *Management Science I: Managerial Statistics* 3 credits

(Prerequisite, Qms 15 or Qms 102) Statistical methods used by managers to analyze qualitative as well as quantitative data will be discussed. Such topics as regression and correlation analysis, design of experiments, and nonparametric methods are presented from a decision making approach. Emphasis will be on problem formulation and output analysis rather than on computation.

Qms 343. *Management Science II* 3 credits

(Prerequisite, Qms 15 & 109 or Qms 102) The quantitative approach to managerial problems of planning and controlling the design and operation of production and other business systems. Topics include: mathematical programming, decision analysis, simulation, Markovian and queueing models, project management techniques, management of production and inventory systems.

Qms 345. *Management Information System* 3 credits

This course introduces the student to the conceptual basis and practical design, development, implementation, and management of information systems. Topics covered include: information systems technology, analysis, design, development and management. Software packages are used to develop applications in accounting, finance, management, marketing and production. See note regarding background required on Computer Literacy on page 73.

Mgt 350. *Organizational Behavior* 3 credits

(Prerequisite, Mgt 108 or equivalent) A primary goal of an organization is the improved performance of individuals and work groups within the organization. Organizational behavior is the field of study that investigates and explains those concepts or theories which are vital in current management practices dealing with job performance.

Mkt. 360. *Marketing Management* **3 credits**
(Prerequisite, Mkt 107) Analysis of the conceptual and tactical mechanisms of marketing management with emphasis on how today's firms and institutions mobilize their resources to achieve market penetration, sales volume, and satisfactory profits. Marketing planning with control and implementation of strategies as major aspects of decision making. Also, exploring market opportunities and formulation of marketing policies (marketing mix) exemplified through case studies.

Fin 380. *Financial Management* **3 credits**
(Prerequisite, Fin 110) Principles of policy formation in the modern corporation; the institutions, instruments and customary procedures that influence the determination of corporate policy; and the reasons for choices in seeking solutions to specific financial problems. A case approach will be utilized to cover problems of working capital management, capital budgeting, and capital structure. Computerized approaches to financial problems will be emphasized.

Mgt 390. *Business Policy* **3 credits**
(Prerequisite: All other core courses) Starting with conceptual and institutional foundations of business, the course covers the philosophy, history and ethics of business policy, culminating the specific areas of policy, accounting, finance, marketing and management. This course should be taken in the last semester of the student's program, and only after all other core and major courses are completed.

Advanced Electives ***Accounting***

Acc 421. *Auditing* **3 credits**
(Prerequisite, Acc 325) Audit of income statement and selected balance sheet items. The audit report, internal auditing, ethics of the profession. Audit case problems. Admission with consent of instructor.

Acc 422. *Federal Taxation* **3 credits**
(Prerequisite, Acc 325) Corporation Income Taxes, with special emphasis on current Internal Revenue Service regulations. Partnerships included. Admission with consent of instructor.

Acc 423. *Advanced Managerial Accounting* **3 credits**
(Prerequisite, Acc 325) Decision models including pricing factor and product combinations. Examination of the problems of control in organization including transfer pricing and performance evaluation.

Acc 424. *Advanced Financial Accounting* **3 credits**
(Prerequisite, Acc 325) Critical examination of the treatment of major items in the financial statements using conventional (historical cost) accounting. Examination of selected topics including: consolidations, accounting for government and non-profit institutions.

Acc 425. *International Accounting* **3 credits**
(Prerequisite: Acc 325) Accounting for international business; accounting control for the multinational enterprise, global accounting theory and practice, social accounting concepts, tax aspects of foreign transactions, and international financial reporting to investors.

Acc 429. *Special Topics in Accounting* **3 credits**

Production and Operations Management

Qms 442. *Applied Operations Research* 3 credits

(Prerequisite, Qms 341 or 343) A course devoted to the study of the theory and application of Operations Research models. Topics are chosen from mathematical programming, decision analysis, production-inventory management, Queuing Theory and Markov Process. Case studies of several applications illustrating different features of Operations Research will be discussed.

Qms 443. *Applied Decision Analysis* 3 credits

(Prerequisite, Qms 342 or consent of instructor) An overview of decision analysis and modeling under uncertainty. Topics will include; behavioral assumptions and limitations of decision analysis, risk analysis, personal and group utility functions and their applications. Case studies of several applications illustrating different features of decision analysis will be discussed.

Qms 444. *Business Forecasting Models* 3 credits

(Prerequisite, Qms 342 or consent of instructor) Techniques of business forecasting with emphasis on practical application to different business problems. Topics covered will include the forecasting process, data collection methods. Qualitative methods along with quantitative forecasting models such as regression analysis, exponential smoothing, and the Box-Jenkin technique will be studied.

Qms 446. *Business Database Management Systems* 3 credits

(Prerequisite, Qms 345). This course focuses on the overall structure of database management applications with emphasis on the relational approach. Topics covered include: database design, data dictionaries, query system, methods of storage and access, data definition and manipulation, data security and integrity, recovery and concurrence, distributed database management. Students will learn to design and implement database applications using micro and/or mainframe computers.

Qms 448. *Business Decision Support Systems* 3 credits

(Prerequisite, Qms 341 & Qms 345) This course introduces the student to the conceptual foundations, technological components, and organizational processes involved in building interactive computer-based systems to help decision makers solve relatively unstructured problems. Topics include: DSS architecture, and generators, dialog; data and model management. DSS applications will be developed using Interactive Financial Planning Systems (IFPS).

Qms 449. *Special Topics in POM* 3 credits

(Prerequisite, Qms 342 343, Mgt 350, Mkt 360, Fin 380) Application of quantitative methods of analysis to research problems in management, finance, marketing, production planning, and management information systems.

Management

Mgt 453. *Organizational Theory* 3 credits

(Prerequisite, Mgt 350) Study of the forces both within and outside the organization that determine the structure and processes of an organization. Topics to be covered will include technology and size influences, conflict, boundary roles, matrix structure, political factors, and sociotechnical systems.

Mgt 454. *Group Dynamics* 3 credits

(Prerequisite, Mgt 350) Designing individual and group behavior systems, contemporary topics on designing organizational systems for better utilization of human resources.

Mgt 455. *Organization Power & Politics* 3 credits

(Prerequisite, Mgt 350) This course examines power and politics in organizations from theoretical, applied, and research perspectives.

Mgt 456. *International Management* 3 credits

(Prerequisite: Mgt 350) A basic graduate course in international management, this course focuses on the set of strategy decisions facing the multinational corporation. It will also focus on the external and internal variables that influence the choice and outcome of strategies. The specific strategies covered are entry/ownership, sourcing, control, marketing, financial, human resources, and public affairs. Other topics include the division of labor and resource allocation on a worldwide basis, cultural issues, and issues of nationalism.

Mgt 459. *Special Topics in Management* 3 credits

Marketing

Mkt 461. *Marketing Research* 3 credits

(Prerequisite, Mkt 360) Marketing Research is studied as the basis for decision making, for analysis of markets, and for evaluation of marketing strategies through systematic gathering of information and evidence. The foundations and methodology of research including behavioral sciences and multivariate analysis are discussed. Research projects are conducted by the class participants and research applications to marketing problems are exemplified.

Mkt 462. *Promotion Management: Advertising and Selling* 3 credits

(Prerequisite, Mkt 360) A study of the promotion activities of business firms and institutions; analysis of audience behavior and motivation; communication through mass media and person to person interaction including advertising, personal selling, sales promotion, and publicity; the development of an integrated promotional strategy to generate sales and profits through informing, persuading, and activating middlemen and consumers.

Mkt 463. *International Marketing* 3 credits

(Prerequisite, Mkt 360) A study of the managerial problems in international marketing covering factors affecting international markets in different cultural areas of the world.

Mkt 464. *Consumer Behavior* 3 credits

(Prerequisite Mkt 360) Study of the basic factors influencing consumer behavior with emphasis on managerial use of consumer decision making models from both economics and the social sciences.

Mkt 469. *Special Topics in Marketing* 3 credits

Finance

Fin 481. *Financial Institutions* 3 credits

(Prerequisite, Fin 380) A detailed survey of the more important financial institutions of the United States in order to determine their functions and interrelations in the national economy. Monetary and fiscal policy. Material covered will assist the student to better understand the economic, social and political scene in America.

Fin 482. *Advanced Financial Management* 3 credits

(Prerequisite, Fin 380) A case oriented approach to financial decision making with emphasis on current management, capital budgeting, capital structure, mergers and bankruptcy.

Fin 483. *Investment Analysis* 3 credits

(Prerequisite, Fin 380) The investment markets and financial analysis of various types of investments including industrial, railroad, utility financial institutions, real estate, government, municipal and foreign securities; the mathematics and mechanics of investments.

Fin 484. *International Finance* 3 credits

(Prerequisite, Fin 380) A detailed survey of the financial decision process of multinational corporations. Topics include, foreign exchange risks, foreign investment decisions, positioning of funds, international banking, import and export financing, multinational accounting rules and tax planning.

Fin 489. *Special Topics in Finance* 3 credits



Eastern Christian Studies

Rev. John J. Levko, S.J., Director
Sr. Joan L. Roccasalvo, C.S.J., Coordinator

Admission and Degree Requirements

Students of all religious backgrounds are welcome whether as candidates for the Master of Arts degree or as non-matriculated students who would like to enrich and broaden their own experience with some courses in Eastern Christian studies.

Admission to the Master's program requires that a student hold a Bachelor's degree with a minimum of 15 credits in theology and philosophy or their equivalent. A total of 30 credits is required for the Master's degree. One of two options may be chosen:

- a) 30 credits plus oral and written comprehensive examinations.
- b) 24 credits, a thesis and an oral defense of the thesis and written comprehensive examinations.

A 3.0 average must be maintained in order to qualify for the written and oral comprehensive examinations. The degree program is extended over a period of several summers with directed research and tutorial work available during the Fall and Spring.

It will prove useful for the student to have a reading knowledge of Latin, Greek, or an East European language.

Core Courses

The following courses are required of all degree students.

ECS 205 or 206	Byzantine Civilization I and II
ECS 210 and 211	Eastern Christian Fathers I and II
ECS 215	Eastern Liturgical Music
ECS 220	Introduction to Eastern Liturgies
ECS 225	Theology of the Byzantine Churches
ECS 230	Eastern Christian Spirituality
ECS 235	The Trinity in the Eastern Tradition

NOTE: Courses in the Eastern Christian Studies program are ordinarily offered only in the Summer Sessions.

Course Descriptions

ECS 205, 206. *Byzantine Civilization I and II* *Each 3 credits*

The Byzantine Empire from its origins in the 4th century to its collapse in the 15th; the political and economic growth of the empire; the cultural life of the empire with emphasis on its art and religion. The material of the first course is treated chronologically, the first part beginning with Constantine (4th c.) and ending with the close of the Macedonian Dynasty (1081); the second part ends with the Fall of Constantinople (1453). Need not be taken in sequence. (Course I or II required).

ECS 210, 211. *Eastern Christian Fathers I and II* *Each 3 credits*

A survey of some of the major themes of the Eastern Christian Fathers. Among the authors from whom readings will be selected are: Irenaeus, Origen, Clement of Alexandria, Gregory of Nyssa, John Chrysostom and Ephraem. (Course I and II required).

ECS 215, 216. *Eastern Liturgical Music I and II* *Each 3 credits*

A survey of liturgical music of the major Eastern Rite Churches: Byzantine-Greek and Byzantine-Slav, Maronite, Armenian, Copt. Special focus on a) the nature and structure of Byzantine chant before the Fall of Constantinople (1453); b) the nature and structure of Slavic chant, i.e., the chant tradition of Great Russia and that of Southwestern Rus'; Kiev-Lviv-Subcarpathian Rus' (16th-19th c). A selective study of the liturgical music of the more recent Slavic composers. (Course I required)

ECS 220. *Introduction to Eastern Liturgies* *3 credits*

The structure of the divine liturgy in the Byzantine Church. The development of the structure in the context of the Christian East (comparative liturgy). The relationship between the divine liturgy and other liturgical mysteries (the sacraments). The structure and meaning of the whole liturgical life of the Byzantine Church. The role of psalms, hymns, prayers, words and actions in the liturgical services (would include liturgical preparation for course in music, i.e., the liturgical setting of hymns).

ECS 225. *Theology of the Byzantine Churches* *3 credits*

Beginning with a survey of the main developments of Byzantine theology, this course examines the important contributions of Eastern Christian thinkers in shaping the patristic heritage of the Church. It then examines characteristics of Byzantine theology in contemporary attempts to articulate our life in Christ.

ECS 230. *Eastern Christian Spirituality* *3 credits*

A study of the meaning of the spiritual life for Eastern Christian writers with particular emphasis on St. Athanasius, St. Gregory of Nyssa and St. Gregory Palamas. Themes such as prayer, image and likeness with God, discernment of spirits, hesychasm and iconography will be discussed.

ECS 235. *The Trinity in the Eastern Tradition* *3 credits*

The course will treat the evolution of the doctrine of the Trinity by using the sources contained in Scripture, the writing of Church Fathers and conciliar decrees by: (a) discussing the ideas of person, substance and union and how these ideas related to the philosophical systems of the times; (b) comparing and contrasting the evolution of Trinitarian models in the East and in the West; (c) analyzing the role of theologies of Basil the Great, Gregory of Nyssa, Photius, Maximus the Confessor and Gregory Palamas; (d) treating some contemporary eastern Orthodox approaches to the Trinity.

ECS 298. *Directed Study* *2-6 credits*

Allows the student to pursue an area of interest under the guidance of a faculty member.

ECS 299. *Thesis* *6 credits*

Students undertaking thesis work register for this course. The 6 credits of thesis may be undertaken all in one term or over a number of terms.

Department of English

Dr. Francis X. Jordan, Chair and Director of Graduate Program

Departmental Requirements

The applicant must, prior to the start of his/her graduate program, possess a baccalaureate degree; and must have completed on the undergraduate upper-division level a minimum of eighteen semester hours in English; and must, further, have a quality point index of not less than 2.75 (of a possible 4.0) in his/her upper-division courses in English. Applicants are urged to submit scores from the GRE General Test and Subject Test in Literature. For certain applicants, the Director of the Graduate Program in English may require submission of these scores. International students must have a score of at least 550 on the TOEFL.

Course Requirements

A. Master of Arts in English

Candidates for the degree of Master of Arts in English may select a thesis or non-thesis program.

M.A. Thesis Program

The M.A. thesis program will require the student to complete successfully 27 credits in courses in English, as outlined below; pass an oral exam; and present a critical study (thesis) of no fewer than 12,000 words. The comprehensive examination for the M.A. (thesis) will be an oral examination, in which the candidate will defend his/her thesis and be questioned on literary material from the area of his/her thesis and two other major areas of English or American literature. The specific areas for each student's oral examination will be established by the student and his/her mentor, based on the thesis topic. A summary description of the procedure to be followed in the preparation and defense of theses can be obtained from the secretary of the English Department (Room T458).

The only specific course requirement for the M.A. (thesis and non-thesis) is English 200: Introduction to Research (three credits). The remaining 24 hours of credit for the M.A. (thesis) are to be taken in courses approved by the student's mentor. These courses should be so chosen as to combine student interest in certain periods and genres, and coverage, both in range and depth, of the fields of British and American literature. The 33 credit hours necessary for the M.A. (thesis) are completed with the six hours granted for the thesis.

M.A. Non-Thesis Program

The M.A. non-thesis program requires the student to complete successfully 33 credits in courses in English, including English 200, and pass a written comprehensive examination. The examination, which is given several times a year, as scheduled by the Graduate Office, will be based on a reading list of works selected from the major areas of British and American literature. The questions require students to demonstrate their knowledge of those works, as well as the literary history of which they are a part and the characteristics of the genres they exemplify. There are several such lists, and each one is the basis for several examinations. The lists and the tests are rotated regularly. Students should ask the Department Chair for a Reading List after they have completed nine credits of graduate study, and begin then to prepare for the Comprehensive Examination. They should apply at the Graduate Office to take that examination sometime during the year in which they expect to complete their degree requirements.

B. Master of Science in Secondary Education: English

For a Master of Science in Secondary Education with specialization in English, kindly refer to the criteria outlined by the Department of Education, Secondary Education for application procedures and degree requirements.

Combined Undergraduate-Graduate Programs

A special five-year program leading to the Master of Arts degree in English is offered to qualified undergraduate students which makes it possible to obtain the B.A. and M.A. degrees within the period cited. Interested students should contact the Chairman of the Department for details.



Dr. William Rakauskas, Professor of English, specializes in methods of teaching English and writing.

Course Descriptions — English

- English 200. *Introduction to Research* 3 credits
Course familiarizes students with the important research tools and methods of the discipline, as well as with more specialized references and procedures in the students' particular areas and periods of interest. Reading and projects prepare students for large research projects, including the M.A. thesis and doctoral dissertation.
- English 201. *History of the English Language* 3 credits
An investigation of the principal phonemic, morphological, and orthographic changes governing the evolution of the English language from Anglo-Saxon times to the present; although the approach will be historical, due emphasis will be accorded the study of our language as a living cultural entity.
- English 205. *Modern Grammar in the English Curriculum* 3 credits
The theory of transformational grammar, studied against such other theories as prescriptivism, structuralism and case grammar, in practical application to the high school and college English curriculum.
- English 206. *Composition in the English Curriculum* 3 credits
Designed for both high school and junior college English teachers, this course will review traditional composition programs and approaches, explore innovative programs and methods, and consider the place of composition in a variety of curricula.
- English 207. *Literature in the English Curriculum* 3 credits
In considering strategies for selecting, organizing, and teaching high school literature, this course will explore the central question of what a sequential, well-balanced, efficient program in literature should consist of. It will include adolescent literature, themes, genres, socio-political movements, thematic and short courses, autotutorial devices or systems, and inquiry methods.
- English 211. *Medieval English Literature* 3 credits
A critical study of the major literary works in English of the Middle Ages, from Beowulf through Everyman.
- English 214. *Chaucer I: The Early Poems* 3 credits
Close study of Chaucer's poetry other than *The Canterbury Tales* with particular emphasis on *Troilus and Criseyde*.
- English 215. *Chaucer II: The Canterbury Tales* 3 credits
A detailed examination of the general structure of *The Canterbury Tales* and of the individual tales, with attention to specialized critical tools and techniques, and to various critical approaches to Chaucer.
- English 220. *Shakespeare and Other Elizabethan Dramatists I* 3 credits
A careful study of Shakespeare's plays written before 1600, together with selected plays of Marlowe, Kyd, Greene, and Peele.
- English 221. *Shakespeare and Other Elizabethan Dramatists II* 3 credits
A careful study of Shakespeare's plays written after 1600, together with selected plays by Jonson, Chapman, Dekker, Beaumont, Fletcher, Tourneur, Marston, Middleton, Massinger, and Ford.

English 231. *Sixteenth Century Literature* 3 credits

Poetry and prose of the English Renaissance, with special attention to the new birth of poetic form; examination in depth of the great poetic achievements of Sidney, Spenser, and Shakespeare.

English 232. *Seventeenth Century Literature* 3 credits

A study in depth of the major British authors of the seventeenth century other than Milton.

English 234. *Milton* 3 credits

An appreciation of John Milton as poet, critic, and innovator, together with a critical survey of the poet's sources, poetical works, and literary forms.

English 236. *Augustan Studies* 3 credits

A study in depth of the major works of John Dryden, Alexander Pope, Jonathan Swift, Joseph Addison, Richard Steele, and William Congreve.

English 238. *Dr. Johnson and His Age* 3 credits

The works of Johnson and his contemporaries studied in the light of the social, political, and intellectual background of the second half of the eighteenth century.

English 239. *The English Novel, Defoe through Austen* 3 credits

Readings of selected novels of the eighteenth and early nineteenth centuries, with emphasis on the literary, social, and intellectual sources of the novel.

English 240. *Romantic Poetry and Criticism* 3 credits

An examination of the poetry and critical writings of the major romantic poets. The aim is not an exhaustive survey but an intensive study of several of the following: Blake, Wordsworth, Coleridge, Byron, Shelley, Keats.

English 243. *Victorian Poetry and Non-Fictional Prose* 3 credits

An examination of Victorian poetry and non-fictional prose in the light of its social, political, and intellectual backgrounds. The aim is not an exhaustive survey but an intensive study of several of the following: Tennyson, Browning, Arnold, and Pre-Raphaelites, Carlyle, Newman, Ruskin and Pater.

English 244. *The English Novel, Dickens through Hardy* 3 credits

Readings in selected Victorian novels in the light of the social, political, and intellectual backgrounds of the age, with emphasis on the artistic development of the novel.

English 250. *Studies in Modern Poetry* 3 credits

An intensive study of trends and techniques in such major twentieth century poets as Hopkins, Yeats, Auden, Dylan Thomas, Frost, Stevens and Eliot.

English 252. *Modern British Fiction* 3 credits

Readings of selected twentieth century novels in the light of the social, political, and intellectual background of the times. Such major British novelists of the century as Conrad, Joyce, D.H. Lawrence, E.M. Forster, Greene, Waugh, Virginia Woolf, and Muriel Spark will be included.

English 254. *Modern Drama*

3 credits

The development of drama (Continental, British, Irish, and American) from Ibsen to the present day. Among playwrights whose works will be read and studied are: Ibsen, Strindberg, Chekhov, Synge, Yeats, O'Casey, Shaw, Osborne, Pinter, Brecht, Anouilh, Ionesco, Beckett, O'Neil, Anderson, Wilder, Inge, and Albee.

English 256. *American Romanticism and Transcendentalism*

3 credits

Studies in the major works of Cooper, Poe, Hawthorne, Emerson, and Melville.

English 257. *American Realism and Naturalism*

3 credits

Studies in the major works of Twain, Crane, Norris, James, and Howells.

English 259. *Twentieth Century American Fiction*

3 credits

Modern American novels and short stories. The period from 1900 to the present will be covered, emphasizing such major figures as Fitzgerald, Hemingway, Faulkner, Steinbeck, and Barth.

(N.B. Each of the following seminars will involve concentrated study of a single literary figure, movement, or genre. The particular subject of each seminar will vary each year.)

English 270. *Seminar: Special Studies in English Literature*

3 credits

English 271. *Seminar: Special Studies in American Literature*

3 credits

English 272. *Seminar: Special Studies in Comparative Literature*

3 credits

English 280. *Afro-American Literature*

3 credits

An introductory survey of Afro-American literature, stressing an in-depth examination of the works of Afro-Americans in poetry, song, drama, the novel, the essay, and the slave narrative. Emphasis will be placed on the relationship between the Afro-American experience and the African experience. The period covered is from the founding of the American nation to the present day.

English 299. *English: Thesis*

3 credits

Students working on a thesis register for this course. Six thesis credits are normally required for MA students. These may be taken all in one term or in two different terms.

A tentative cycle indicating when courses will be offered is available from the Department. Please see the Chair. Special Note on American Literature: In addition to the fixed, regularly cycled courses in American Literature (English 256, 257, 259) several other electives in American Literature are offered every year under the variable topic heading English 271 (Seminar: Special Studies in American Literature). Also, sections of English 250 and 254 deal with American Literature.

Department of History

Dr. Michael D. DeMichele, Chair
Dr. Ray Champagne, Director of Graduate Program

Departmental Requirements

The applicant must possess the baccalaureate degree and should as an undergraduate have completed a minimum of 18 upper-division semester hours in History. Applicant should have a Quality Point Index of not less than 2.75 (based on 4.0 scale) in all his/her undergraduate history courses or have attained an acceptable score on the General Test of the G.R.E. or an equivalent score in other nationally recognized tests. In the event that significant gaps occur in the student's undergraduate program, additional undergraduate history courses may be specified by the mentor.

Master Of Arts In History

Course Requirements: The Master of Arts in History requires successful completion of 30 graduate credits.

A Thesis or Non-Thesis Program: A thesis or non-thesis program for the M.A. degree is the option of the student. Both the thesis and non-thesis programs entail successful completion of 30 graduate credits, and a successful comprehensive examination in the field. The thesis program, however, will require the student to complete successfully a total of 27 course credits and to present an acceptable thesis for which three credits will be granted. The thesis topic must be approved by the student's mentor under whose active direction the thesis shall be satisfactorily completed. The thesis must be approved by a faculty panel assigned by the Chair of the Department.

Comprehensive Examination: All candidates for the comprehensive examination in History must have the approval of the mentor, and have completed at least 24 graduate credits in the program. Ordinarily, the comprehensive examination will be a written three hour exam. The exam will be designed and graded by the student's mentor and a faculty panel to test the student's knowledge of the factual and interpretive material basic to the student's field. It will not be limited to the content material treated in the course work.

Mentor: Upon admission to the Graduate School in History, the student will be assigned a mentor who will advise the student of all course work and who, if the program includes a thesis, will direct the student's research and writing of the thesis.

Four Year B.A./M.A. Degree Program

The Department of History and Political Science offers a special program that enables the qualified student to obtain both a Bachelor's and Master's Degree within four calendar years by accelerating the student's course of study through judicious use of Intersession and Summer School, and by allowing twelve (12) graduate history credits to be applied to both the B.A. and M.A. degree programs. Students may be conditionally admitted to the program upon matriculation at the University and after approval by the Department and the Deans of the College of Arts and Sciences and the Graduate School. Students already enrolled at the University and transfer students may enter the program on a conditional basis up to the end of the second year of studies with the same approval mentioned above.

Ordinarily, a student must have a Quality Point Index (QPI) of 3.2 in all courses and have a letter of recommendation from one of his/her history professors in order to be admitted to the four year B.A./M.A. program.

Students enrolled in the four year B.A./M.A. Degree Program are required to complete all other degree requirements specified in the catalogs of both the College of Arts and Sciences and the Graduate School of the University of Scranton.



*Dr. Michael DeMichele, Chairman
Department of History*

Course Descriptions — History

- Hist. 200. *Science and Methods of Historians* 3 credits
A study of application of scientific methodology required for gathering, assessing, synthesizing and documenting historical information with special attention given to American historians and historiography.
- Hist. 205. *America: From Province to Nation* 3 credits
An examination of selected topics pertaining to the political, diplomatic and social history of the American colonies.
- Hist. 210. *The Shaping of the American Nation* 3 credits
An examination of selected topics in the period from the adoption of the Federal Constitution to the retirement of Andrew Jackson.
- Hist. 212. *The American Constitution* 3 credits
Emphasis on the basics of American constitutionalism, the development of the judicial process, the problems of civil liberties and religious freedom.
- Hist. 215. *America's Immigration Experience* 3 credits
An in-depth look at the immigration and Americanization of selected ethnic groups in U.S. society.
- Hist. 218. *The Local Ethnic Experience* 3 credits
Immigration to America, early ethnic groups in Northeastern Pennsylvania, coal mining in the anthracite belt.
- Hist. 220. *American Expansionism* 3 credits
A study of the expansionist instinct in U.S. foreign policy from the Revolutionary days to modern times.
- Hist. 225. *American Foreign Policy in the Nuclear Age* 3 credits
An assessment of American foreign policy and diplomacy in the decades since World War II.
- Hist. 230. *America's Response to Industrialism* 3 credits
A study of the Civil War and Reconstruction, industrial growth and conflict, the American Black, the reform impulses and the transformation of national politics: Bryan, Roosevelt and Wilson.
- Hist. 235. *Twentieth Century America* 3 credits
A study of the Great War, the Twenties, the Depression, World War II, the Cold War, and the emergence and erosion of national consensus.
- Hist. 240. *American Decorative Arts* 3 credits
A study of the social and domestic history of the American people from the colonial era to the Twentieth Century through an examination of how Americans developed living patterns and artistic ambience.
- Hist. 245. *Pivotal Elections in American History* 3 credits
An examination of the more significant and interesting Presidential elections in the history of the United States.

Hist. 248. *Seminar in American History* 3 credits
An analysis of selected topics in American history from the Colonial era to the present.

Hist. 250. *The British Experience* 3 credits
A study and interpretation of the enduring political, cultural, and social heritage of Britain from the Age of Victoria to the end of the Empire.

Hist. 255. *The Soviet Achievement* 3 credits
An analysis of the social, cultural, economic and political accomplishments of the U.S.S.R.

Hist. 260. *Modern Germany* 3 credits
A detailed study of modern Germany from the formation of the German Empire to the demise of Adolph Hitler and the reconstruction of Germany after World War II.

Hist. 265. *French Revolution and Napoleon* 3 credits
A study of the causes and results of the French Revolution and the Age of Napoleon and its legacy.

Hist. 270. *Anatomy of Modern Europe* 3 credits
An analysis of the major institutions, problems and accomplishments of Europe since the end of World War II.

Hist. 275. *Military Power in the 20th Century* 3 credits
A study of the role of military force in international relations and the impact of the military and war upon domestic society in modern times.

Hist. 278. *Seminar in European History* 3 credits
An analysis of selected topics in European History from the nineteenth century to the present.

Hist. 298. *Directed Study* 3 credits
Allows the student to pursue a topic of special interest under the direction of a faculty member.

Hist. 299. *History: Thesis* 3 credits
Students working on a thesis register for this course.



Department of Chemistry

Dr. Maurice I. Hart, Chair

Dr. Joseph H. Dreisbach, Director of Graduate Programs

Chemistry and Biochemistry Programs

Master of Arts programs are offered in two major fields: Chemistry and Biochemistry. The Master of Arts is a thesis degree that is directed toward subsequent work for the doctoral degree and an important preparation for research activity in industry or elsewhere. Its requirements include thirty credit hours of classroom courses and independent research under the direction of a faculty member.

Master of Science programs are offered in Chemistry and Biochemistry. The Master of Science is usually a terminal degree intended to upgrade the student's professional competency and capabilities for work in industry or secondary education. Thirty credit hours of classroom work are required.

Students may also pursue a Master's degree in Secondary Education that is correlated with Chemistry. Kindly refer to the criteria outlined by the Department of Education, Secondary Education for application procedures and degree requirements.

Admission Requirements. Applicants for the Master of Arts or Master of Science programs in chemistry or biochemistry must possess, or be in close proximity to possessing, a baccalaureate degree which includes full-year courses in General and Analytical Chemistry, Organic Chemistry, Physical or Biophysical Chemistry, General Physics and Mathematics through Integral Calculus. Applicants for the Master's degree in Secondary Education that is correlated with Chemistry must have, beside the baccalaureate degree, at least a full year of General and Analytical Chemistry, College Physics and Mathematics. A Grade Point Average of 2.75 is required both overall and in the science courses.

Certain of these requirements may be waived at the discretion of the Department Chair. Students with limited undergraduate course deficiencies may be admitted, with the approval of the Chemistry Faculty on condition that such deficiencies are corrected concurrently with their initial graduate course.

Course Requirements: Core Courses are those, within each program, that are required of all candidates. Since these are the fundamental courses that form the basis of the comprehensive examinations, it is essential that they be taken first in any candidate's program before any electives.

Core courses for the Master of Arts and Master of Science degrees in Chemistry are as follows: Chem. 202, 211, 218, 221, 222, 241 and 242. The Chem. 218 requirement will be waived for those individuals who have previously taken an equivalent instrumental analysis laboratory course.

Core courses for the Master of Arts and Master of Science degrees in Biochemistry are as follows: Chem. 211, 218, 222, 233, 234 and 242. The Chem. 218 requirement will be waived for those individuals who have previously taken an equivalent instrumental analysis laboratory course. With permission, Chem. 245-246 may be substituted for Chem. 242 for those with a less complete background.

Core courses for the Master's degree in Secondary Education that is correlated with Chemistry are Chem. 202, 211, 222, 245, and 246.

Elective courses beyond the Core Courses will be chosen from among the graduate courses offered by the Chemistry Department. In the Master's degree program in Secondary Education that is correlated with Chemistry, the mentor may allow students to fulfill their requirements with other courses in Chemistry.

Clinical Chemistry Program

The Clinical Chemistry program is designed to provide advanced scientific and management training to prepare participants for leadership positions in hospital, industrial, or other private analytical laboratories. The program has two tracks: Research and Administration. The Research track is designed for students who wish to emphasize development of research capabilities. This track requires completion of a research thesis and leads to the Master of Arts degree. The Administration track is designed for students who wish to combine their scientific training with some exposure to matters of administration in health/medical/laboratory environments; this track leads to the Master of Science degree. Both tracks require a minimum of 36 graduate credits.

Admission Requirements: Applicants for the program will normally have a Bachelor's degree in Chemistry, Biochemistry, Biology, or Medical Technology. Other undergraduate degrees may be acceptable if appropriate background courses in the sciences have been taken. The undergraduate transcripts of all applicants will be examined to determine if there are any deficiencies in background courses.

An undergraduate GPA of at least 2.75, for all courses combined as well as for science courses, is expected for admission to the program.

Course Requirements. The following courses, 27 credits in all, are required of all students in the Clinical Chemistry program:

- Chem. 233 Biochemistry I
- Chem. 234 Biochemistry II
- Chem. 218 Analytical Methods
- Chem. 211 Advanced Analytical Chemistry
- Chem. 222 Mechanistic Organic Chemistry
- Chem. 225 Chemical Toxicology
- Chem. 266 Instrumental Electronics
- Chem. 267 Biochemistry of Disease
- Chem. 268 Clinical Quality Control

While registered for Chem. 268, the student will participate in a clinical affiliation. This course will ordinarily be taken as the last course in the student's program.

Students take 9 elective credits. Electives may be taken from any of the following categories:

Thesis: Students in the Research track will take 2-6 credits of thesis work (Chem. 299). The number of thesis credits will be determined in consultation with the student's Mentor, depending on the scope of the thesis project. Normally, six thesis credits are devoted to the project.

Administration: Students in the Administration track may select from among the following courses in the Human Resources Administration (HRA) program:

- HRA 300 Organization and Administration
- HRA 320 Managerial Leadership
- HAD 314 Health and Hospital Administration
- HRA 326 Computer Technology

Students should consult with the Director of the HRA program, as well as with their Mentor, regarding specifics of these courses.

Other Chemistry Courses: Students may select other graduate courses offered by the Chemistry Department, in consultation with their Mentor, to complete their electives. Of special interest in this category are the following: Chem. 237, Enzymology and Chem. 214, Applied Spectroscopy.

Comprehensive Examinations

Candidates for the MA or MS degrees in Chemistry, Biochemistry, and Clinical Chemistry must pass a comprehensive examination, based on the Core Courses required in the respective programs. The comprehensive examination is normally taken after the core courses have been completed. Students who do not pass the comprehensive exam on the first attempt will be allowed to take the

entire examination a second time. Students failing the comprehensive exam for the second time will not be considered for the degree.

Course Load

The normal full-time semester load for a graduate student is 9-12 credits. The degree will ordinarily require 3-4 semesters of work.

Thesis

Master of Arts candidates in Chemistry, Biochemistry, and Clinical Chemistry are required to do independent research and write a thesis.

Early in the program, each student should choose a research director, decide with him/her on a project. Then two readers should be chosen and a proposal prepared for the research project. This proposal should be presented to the thesis committee consisting of the research director and the two readers. When the project proposal is approved the student should progressively carry out the necessary laboratory experimentation. When the work is complete, it must be reported in a thesis which is publicly defended before the Chemistry Department. The credits awarded for the thesis (Chem. 299) can vary from 2 to 6, depending on the needs of the student.

Graduate Assistantships

Each year approximately 20 students in the Department of Chemistry hold graduate assistantships. Teaching fellowships are available in the Department of Chemistry. Fellows, who are and must remain M.A. candidates, are responsible for four three-hour undergraduate laboratory sections a week during the two regular semesters. Assistants receive a stipend and waiver of tuition and some fees. Graduate students in the Chemistry Department are also eligible for graduate assistantships in other departments of the University, e.g., in Biology, Academic Computer Center, etc. Application for all assistantships must be made to the Graduate School of the University. Contact the Graduate School for information about current stipend levels.

Combined Undergraduate-Graduate Program

A special program leading to the Master's degree in Chemistry or Biochemistry is offered to qualified University of Scranton undergraduate students, which makes it possible to obtain both the Bachelor of Science and Master of Arts degrees within a period of four or five years. Interested students should contact the Chair of the Chemistry Department for details.

Course Descriptions — Chemistry

Chem. 202. *Advanced Inorganic Chemistry* 3 credits

Theoretical concepts and their application to the reactions and structure of inorganic compounds. Introduction to coordination chemistry. Coordination chemistry and related topics; physical methods, reaction mechanisms.

Chem. 211. *Advanced Analytical Chemistry* 3 credits

Theory, description, and application of modern analytical techniques with emphasis on spectroscopy, potentiometry, chromatography, electrochemistry, and radiochemistry.

Chem. 213. *Electro-Analytic Chemistry* 3 credits

Theory and application of potentiometry, polarography, amperometry, coulometry, and other analytical methods.

Chem. 214. *Applied Spectroscopy* 3 credits

The use of ultraviolet, visible spectroscopy, infrared spectroscopy, nuclear magnetic resonance spectroscopy and mass spectroscopy as tools for the identification of organic compounds. The course will include laboratory work using these instruments.

Chem. 218. *Analytical Methods* 3 credits

Laboratory practice with special and analytical apparatus and methods used for process and control, and for research. (Lab fee: \$30/cr.)

**Chem. 221. *Structural Organic Chemistry;*
Woodward-Hofmann Theory 3 credits**

A discussion on an advanced level of the most important features of structural theory, such as stereochemistry, aromaticity, resonance and modern methods of structural determination. Applications of Woodward-Hofmann theory are also discussed.

Chem. 222. *Mechanistic Organic Chemistry* 3 credits

A consideration of the most important means of determining the detailed pathways of organic reactions. Substituent effects on rates of reactions are discussed. Mechanisms proceeding via polar, nonpolar and radical intermediates, including some biochemical reactions, are considered.

Chem. 223. *Theoretical Organic Chemistry* 3 credits

A study of methodology of determining the relationship of structure to reactivity, the mechanisms of important reaction types and the factors that can influence rates and pathways. (Prerequisite: Chem. 222).

Chem. 224. *Heterocyclic Chemistry* 3 credits

An introductory survey of the structure and reactivity of important types of heterocyclic compounds. (Prerequisite: Chem. 222).

Chem. 225. *Chemical Toxicology* 3 credits

The nature, mode of action and methods of counteracting substances which have an adverse effect on biological systems, especially human. Medical, industrial, environmental and forensic aspects will be discussed.

Chem. 233. *Biochemistry I* 3 credits

Survey of the structure and function of biological macromolecules including proteins, carbohydrates, lipids, and nucleic acids. Introduction to chemical aspects of molecular biology, including DNA replication, gene regulation and protein synthesis.

Chem. 234. *Biochemistry II* 3 credits

A study of the metabolism of carbohydrates, lipids, proteins and nucleic acids. Introduction to enzyme kinetics and enzyme mechanisms.

Chem. 236. *Biochemical Genetics* 3 credits

Chemical aspects of cell biology and genetics. Topics include an introduction to the theories of heredity, structure of DNA and RNA, DNA replication, prokaryotic and eukaryotic gene regulation, translation and DNA technology.

Chem. 237. *Enzymology* 3 credits

A course on the chemical nature of enzymes with relation to mechanisms of enzyme action and kinetics. Purification and identification of enzymes and isozymes. Biochemical and physiological aspects of enzymes in living systems.

Chem. 241. *Advanced Physical Chemistry I* 3 credits

Quantum mechanics and quantum chemistry, including perturbational theory, variational theory and specific applications of molecular orbital theories to organic molecules. Spectroscopic applications.

Chem. 242. *Advanced Physical Chemistry II* 3 credits

A comprehensive treatment of thermodynamics, including electrochemistry, thermochemistry and chemical equilibrium. Some introduction to the concepts of statistical mechanics and their application to thermodynamics will also be given.

Chem. 245-246. *Intermediate Physical Chemistry* Each 3 credits

A review of the fundamentals of chemical principles, and a treatment of the mathematics requisite for such review. Two semesters.

Chem. 251. *Seminar* 1 credit

Current topics in chemistry and biochemistry are prepared and presented by the students.

Chem. 261. *Polymer Chemistry* 3 credits

Introduction to the physico-chemical aspects of polymers; emphasis on structure, properties and application; thermodynamics of polymer solutions; statistical mechanical consideration of polymers, theories of rubber elasticity.

Chem. 266. *Instrumental Electronics* 3 credits

An introduction to analog and digital electronics and microcomputers involved in computer automated laboratory instrumentation, including programming and interfacing required for laboratory data acquisition and control.

Chem. 267. *Biochemistry of Disease* 3 credits

A molecular description of pathological conditions in humans. Emphasis is placed on the effects of various disease states on metabolism. Diagnostic techniques and therapeutic approaches are also discussed.

Chem. 268. *Clinical Quality Control*

3 credits

A study of the design and operation of a quality control program in a clinical laboratory. The course will include all those actions necessary to provide adequate confidence that test results satisfy given requirements and standards. Such areas as statistics, patient preparation, specimen integrity, external proficiency control, internal quality control, analytical goals and laboratory management will be covered.

Chem. 298. *Special Topics*

Variable credit

Current topics in chemistry, biochemistry, or clinical chemistry offered by members of the Department.

Chem. 299. *M.A. Thesis*

2-6 credits

(Lab fee charged — \$30.00 per credit).



Loyola Hall of Science, home of the Chemistry Department.

Software Engineering

Dr. J. Fernando Naveda, Director

Program Description and Requirements

Software engineering deals with the application of principles to the analysis, design, construction, and maintenance of computer software and its documentation. This master's degree program seeks to develop professionals who are knowledgeable about and skilled in the application of those principles. Software engineering is a relatively new field within the computing sciences, but one that is viewed as a crucial evolution as software proliferates and organizations become increasingly dependent on software both for routine operations and new developments.

The master of science in software engineering (MSSE) program requires 36 graduate credits, divided as follows:

Fundamentals — 4 courses, 12 credits:

SE 500, 501, 504, and 507

Advanced courses — 6 courses, 18 credits:

SE 510, 524, plus four elective courses

Thesis project — 2 courses, 6 credits:

SE 598, 599

Certain undergraduate background courses may also be required, depending on the student's previous training. See Admission Requirements (item 4) below for a description of the required background for the program.

Admission Requirements

The following are the normal admission requirements for the program. In making an admission decision, all of the information about an applicant will be viewed *in combination*. No single factor among those listed below will either qualify or disqualify an individual for admission to the program.

1. A bachelor's degree from an accredited institution with a minimum grade average of 3.0 (based on a scale of 4.0). Official transcripts of previous academic work must be submitted. A bachelor's degree in computer science is preferred, but not required. At least one year's experience in software development is highly desirable.

2. Scores from either the Graduate Management Admissions Test (GMAT) or Graduate Record Examination (GRE): General Test must be submitted. Information regarding when these tests are administered may be obtained from the Graduate Office. Generally the test must be taken no later than January in order to meet the March 1 application deadline.
3. Three letters of recommendation from professionals familiar with the software development work of the candidate. Letters from current and former professors who can comment on the candidate's technical expertise are acceptable.
4. Demonstratable knowledge equivalent to undergraduate courses in:
 - a. Structured programming in a block structured language (Ada, Pascal, . . .).
 - b. Machine organization and assembler programming.
 - c. Discrete mathematics.
 - d. Data structures.
 - e. File Processing.

Students lacking such background but otherwise highly qualified for admission may be admitted on condition that certain undergraduate courses in the above areas be completed.

5. Good English language skills (oral and written). A TOEFL score of 550 is required for international students who do not speak English as their native language.
6. Submission of a three or four page essay on a software development or maintenance project in which the applicant has participated, an expository survey of a technical subject, or a report on a particular software tool or method. The report or essay must be authored solely by the applicant and be reasonably current.
7. A one or two paragraph statement of objectives and expectations in enrolling in the program. Items 6 and 7 should be submitted along with the Application for Admission to the program.
8. Students will be admitted only for entrance in the Fall term.

Note: The Software Engineering program begins in Fall, 1990. During the Fall and Spring terms of the 1990-91 academic year, a maximum of 6 graduate credits may be taken in the program (SE 500 and 504 in Fall, SE 501 and 507 in Spring). All application materials, as specified above, should be in the Graduate Office by March 1, 1990.

Course Descriptions — Software Engineering

SE 500. *Introduction to Software Engineering* 3 credits

Definition of software engineering. System life cycle, high and low level design. Appropriate CASE tools are discussed. (Prerequisite: admission to the program)

SE 501. *Formal Methods and Models* 3 credits

Study of formal methodologies for analysis of software. Proof of correctness techniques. Software evaluation tools. Theory of program function and structure. (Prerequisite: SE 504)

SE 504. *Advanced Data Structures and Algorithms* 3 credits

Review of elementary data structures. Advanced data structures, their usage in problem-solving and algorithms. (Prerequisite: admission to the program)

SE 507. *Data Security and Ethics* 3 credits

Data encryption, public-key cryptosystems, electronic signatures, protection schemes, introduction to databases and database security. Protection mechanisms in operating systems. Legal and ethical aspects of security and privacy. (Prerequisite: SE 500)

SE 510. *Requirements, Prototyping and Design* 3 credits

Problem and system information requirements. Application domain and models of computation and their possible representations. Study of current specification standards. Software requirements, software design, development and maintenance. Prototyping as a design tool. (Prerequisite: SE 507)

SE 515. *Distributed Systems* 3 credits

Study of distributed systems, hardware and software considerations and interaction. Survey of existing networks and uses. (Prerequisite: SE 504)

SE 516. *Discrete Simulation* 3 credits

Dynamic programming, simulation of real-life systems (feedbacks, resources, etc.). Activity networks. Design and analysis of dynamic systems. (Prerequisite: SE 504)

SE 517. *Advanced Computer Graphics* 3 credits

Advancements in computer graphics hardware and software. Computer generation of pictures. (Prerequisite: SE 504)

SE 521. *Database Systems* 3 credits

A comprehensive study of database management techniques. Study of a variety of database systems, their architectures, uses, design and implementation. Database security and integrity. (Prerequisite: SE 507)

SE 524. *Software Project Management* 3 credits

Design and implementation of large software projects. Analysis of life cycle. Planning and management of human resources. Scheduling techniques. (Prerequisite: SE 510)

SE 531. *Quality Assurance* 3 credits

Software quality assurance. Verification, validation and quality assurance. Theory of testing. Verification management. (Prerequisite: SE 524)



SE 532. Real-time System Development

3 credits

Design and implementation of real-time systems. Data acquisition techniques. Data flow control. Database integrity and management. (Prerequisite: SE 524)

SE 533. CASE Tools

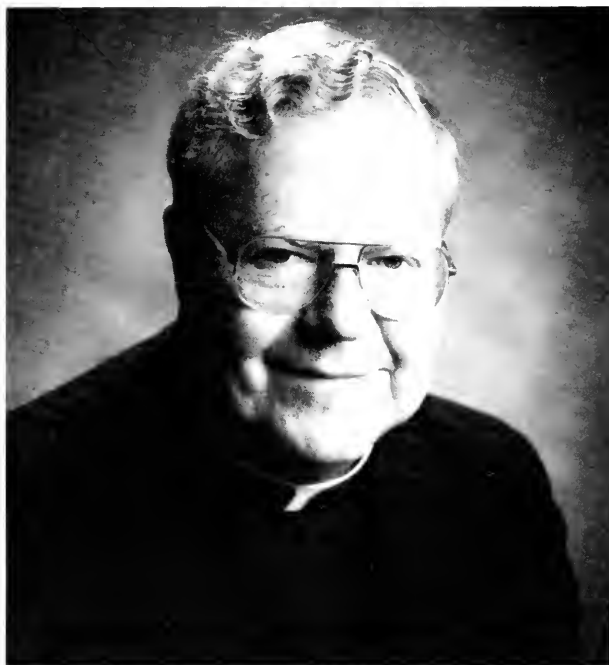
3 credits

Study and use of advanced CASE tools which may include: VAXSet, CorVision, Excelerator, EPOS, and DesignAid. (Prerequisite: SE 524)

SE 598, SE 599. Thesis Project I and II

Each 3 credits

The student designs and implements a thesis project under the supervision of at least one departmental faculty member. The project can be related to the student's job in which case the faculty member should work in conjunction with the student's supervisor at work. The project definition is completed during SE 598. A series of presentations are expected. A formal thesis defense is required. (Prerequisite: all required courses completed)



*Rev. J.A. Panuska, S.J.,
President of the University of Scranton*



*Dr. Richard Passon,
Provost and Academic Vice President.*

Faculty Directory

Officers of the University Corporation

The Rev. J. A. Panuska, S.J., President

Marilyn Coar, Secretary

David E. Christiansen, Treasurer

Officers of Administration

The Rev. J. A. Panuska, S.J. (1982)
President of the University (1982)
Professor, Biology (1982)
B.S., Loyola College;
S.T.L., Woodstock College;
Ph.L., Ph.D., St. Louis University

Richard H. Passon (1984)
Provost/Academic Vice President (1984)
Professor, English (1984)
A.B., King's College;
M.A., Ph.D., University of Notre Dame

Thomas P. Hogan (1985)
Dean, Graduate School (1985)
Professor, Psychology (1985)
B.A., John Carroll University;
M.A., Ph.D., Fordham University

Shirley M. Adams (1986)
Dean, Dexter Hanley College (1986)
Assistant Professor, Education (1986)
B.A., University of Northern Iowa;
M.A., University of Iowa;
Ph.D., Iowa State University

Paul F. Fahey, Jr., D. et U. * (1968)
Acting Dean, College of Arts and
Sciences (1989)
Professor, Physics/Electronics
Engineering (1978)
B.S., University of Scranton;
M.S., Ph.D., University of Virginia

John E. Gay (1987)
Dean, College of Health, Education,
and Human Resources (1987)
Professor, Human Resources (1987)
B.S., State University College, Buffalo;
M.A., California State University
Ed.D., West Virginia University

Joseph Horton (1986)
Dean, School of Management (1986)
Professor, Economics/Finance (1986)
B.A., New Mexico State University;
M.A., Ph.D., Southern Methodist
University

James T. Bryan (1988)
Vice President for Student Affairs (1988)
B.S., State University of New York at
Fredonia;
M.A., Michigan State University;
Ed.D., Columbia University

David C. Christiansen (1988)
Vice President for
Finance/Treasurer (1988)
B.S., M.B.A., LaSalle University

John S. Flanagan (1974)
Vice President for Administrative
Services (1974)
Lecturer, Management/Marketing (1974)
B.A., College of William and Mary;
M.S., University of Alabama

Thomas D. Masterson, S.J. (1976)
Director of Campus Ministries (1976)
and University Chaplain (1989)
Assistant Professor, History/Political
Science (1976)
A.B., M.A., Fordham University;
Ph.L., S.T.B., S.T.L., Woodstock College;
M.A., Ph.D., Georgetown University

Glenn Pellino (1980)
Vice President for Planning and
Administration (1986)
B.A., M.A., St. Louis University;
Ph.D. Cand., University of Michigan

Robert J. Sylvester (1983)
Vice President for Development (1983)
B.S., University of Scranton

Martin L. Langan (1974)
Assistant Vice President for
Operations (1988)
B.S., M.B.A., University of Scranton

Bernard R. McIlhenny, S.J. (1958)
Dean of Admissions (1981)
A.B., M.A., Loyola University, Chicago;
S.T.B., Woodstock College

Lee Williams (1987)
Assistant Provost/Assistant Vice
President (1987)
Professor, History/Political Science (1987)
B.A., LaSalle University;
M.A., Niagara University;
A.C.S., Soviet Institute, Niagara University;
Ph.D., State University of New York at
Binghamton

University of Scranton The Graduate Faculty

- David C. Adams (1983)
Associate Professor,
Management/Marketing (1984)
B.S., Rochester Institute of Technology;
M.S., SUNY College of Environmental
Science;
Ph.D., Syracuse University
- Panos Apostolidis (1977)
Associate Professor,
Management/Marketing (1977)
B.A., University of Athens;
M.B.A., University of Houston;
Ph.D., University of Arkansas
- George V. Babcock, Jr., D. Et U. * (1963)
Associate Dean, School of Management
(1986)
Associate Professor, Economics/Finance
(1974)
A.B., M.A., Ph.L., Boston College;
M.B.A., New York University;
Doctoral Studies, Cornell University
- Christopher Baumann (1984)
Assistant Professor, Chemistry (1989)
B.S., Oregon State University;
Ph.D., University of Florida
- Rebecca S. Beal (1983)
Associate Professor, English (1983)
A.B., Westmont College;
M.A., University of Chicago;
Ph.D., University of Texas
- John A. Beidler, C.D.P., D. et U. * (1964)
Professor, Computer Science (1976)
Chair, Department of Computer Science
(1980)
A.B., King's College;
M.A., Lehigh University;
Ph.D., Pennsylvania State University
- Gerald Biberman (1981)
Associate Professor,
Management/Marketing (1987)
B.A., M.A., Ph.D., Temple University
- Mrigen Bose, D. et U. * (1968)
Associate Professor, Economics/Finance
(1977)
B.S., Patna University;
M.S., University of Kentucky;
Ph.D., University of Utah
- Charles J. Buckley, D. Et U. * (1947)
Dean Emeritus, Dexter Hanley College
(1984)
Assistant to the Academic Vice President
(1984)
Associate Professor, Accounting (1968)
B.S., University of Scranton;
M.B.A., New York University
- Michael C. Cann (1975)
Professor, Chemistry (1988)
B.A., Marist College;
M.A., Ph.D., State University of New York at
Stony Brook
- Joseph M. Cannon, D. Et U. * (1959)
Professor, Education (1974)
B.S., University of Scranton;
M.Ed., Doctoral Studies, Pennsylvania State
University; Licensed Psychologist
- Brian W. Carpenter, C.M.A. (1987)
Assistant Professor, Accounting (1987)
B.S., Pennsylvania State University;
M.B.A., University of Scranton;
Ph.D., Pennsylvania State University
- Ellen M. Casey, D. et U. * (1969)
Professor, English (1981)
B.S., Loyola of Chicago;
M.A., University of Iowa;
Ph.D., University of Wisconsin
- Raymond W. Champagne, Jr., D. et U. * (1967)
Professor, History/Political Science (1981)
A.B., Providence College;
M.S., Duke University;
Ph.D., Loyola University, Chicago
- Ying I. Chein (1979)
Associate Professor, Quantitative
Management Systems (1979)
B.S., National Taiwan University;
M.S., University of Manitoba;
Ph.D., University of Kentucky
- Jafor Chowdhury (1987)
Assistant Professor, Management/
Marketing (1987)
B. Com., M.Com., Dacca University;
M.B.A., Dalhousie University;
Ph.D., Temple University
- Thomas M. Collins (1989)
Instructor, Human Resources (1989)
B.S., Kutztown University;
M.L.S., Rutgers University;
Ed.M., Temple University;
Ph.D. Cand., State University of New York at
Albany
- Willis M. Conover (1978)
Associate Professor, History/
Political Science (1986)
B.A., B.S., Pennsylvania State
University;
M.S., Ed.D., Montana State University
- Frank P. Corcione (1978-79; 1982)
Associate Professor, Economics/Finance
(1982)
B.A., Moravian College;
M.A., Ph.D., Lehigh University

- James J. Cunningham, D. et U. * (1968)
Associate Professor, Education (1971)
Chair, Department of Education (1988)
A.B., King's College;
Ed.M., Ed.D., Rutgers University;
Licensed Psychologist
- Wayne H.J. Cunningham (1987)
Associate Professor, Quantitative
Management Systems (1987)
B.S., M.B.A., Ph.D., Pennsylvania State
University
- Frank H. Curtis, D. et U. * (1966)
Associate Professor, Education (1980)
B.S., M.Ed., Doctoral Studies,
Pennsylvania State University
- Thomas W. Decker (1977)
Assistant Professor, Human Resources
(1982)
B.A., Dickinson College;
M.Ed., University of Virginia;
Ph.D., Ohio State University;
Licensed Psychologist
- Michael D. DeMichele, D. et U. * (1967)
Professor, History/Political Science (1974)
Chair, Department of History/Political
Science (1976)
B.S., University of Scranton;
M.A., Ph.D., Pennsylvania State University
- Trudy Dickneider (1984)
Assistant Professor, Chemistry (1989)
B.A., M.A., St. Joseph's College;
Ph.D., University of Miami
- Joseph C. Dougherty, D. et U. * (1967)
Professor, History/Political Science (1967)
B.A., St. Charles College;
M.A., Ph.D., Georgetown University
- Joseph H. Dreisbach (1978)
Professor, Chemistry (1989)
B.S., LaSalle College;
M.S., Ph.D., Lehigh University
- John L. Earl, III, D. et U. * (1964)
Professor, History/Political Science (1972)
B.S., M.A., Villanova University;
Ph.D., Georgetown University
- Mary F. Engel (1986)
Associate Dean, College of Arts and Sciences
(1986)
Associate Professor, English (1986)
B.A., St. Bonaventure University;
L.L., Katholieke Universiteit te Leuven;
Ph.D., Kent State University
- Leeann Eschbach (1986)
Instructor, Education (1986)
B.S., M.S., Ph.D. Cand., Washington State
University
- John Q. Feller, D. et U. * (1969)
Professor, History/Political Science (1976)
A.B., Loyola College;
M.A., Ph.D., Catholic University
- Joseph A. Fusaro (1974)
Professor, Education (1983)
B.A., Rider College;
M.Ed., University of Vermont;
Ed.D., State University of New York at
Albany
- William A. Gabello, C.P.A. (1983)
Instructor, Accounting (1985)
B.S., University of Scranton
- Thomas W. Gerrity (1976)
Associate Professor, Education (1986)
B.S., University of Pennsylvania;
M.S., University of Scranton;
Ed.D., Columbia University
- Satyajit Ghosh (1986)
Assistant Professor, Economics/Finance
(1986)
B.A., M.A., Presidency College, University
of Calcutta;
Ph.D., State University of New York at
Buffalo
- A. John Giunta, D. et U. * (1960)
Professor, Economics/Finance (1967)
Chair, Department of Economics/Finance
(1987)
B.S., Harpur College;
M.S., Ph.D., Syracuse University
- Irene Goll (1988)
Assistant Professor, Management/
Marketing (1988)
B.S., Pennsylvania State University;
M.A., University of Illinois;
Ph.D., Temple University
- Leonard G. Gougeon (1974)
Professor, English (1982)
B.A., St. Mary's University, Halifax;
M.A., Ph.D., University of Massachusetts
- Ralph W. Grambo (1973)
Associate Professor, Economics/Finance
(1978)
B.S., University of Scranton;
M.B.A., Ph.D., University of Pennsylvania
- Ronald J. Grambo, C.P.A. (1976-77; 1980)
Associate Professor, Accounting (1985)
Chair, Department of Accounting (1987)
B.A., M.B.A., University of Scranton;
Ph.D., Pennsylvania State University
- David W. Hall (1985)
Assistant Professor, Human Resources
(1986)
A.B., Lycoming College;
M.S., University of Scranton;
Ph.D., Pennsylvania State University;
Certified Rehabilitation Counselor;
National Certified Counselor
- Joseph A. Hammond, C.P.A. (1983)
Instructor, Accounting (1984)
B.S., Lehigh University;
M.B.A., University of Scranton;
Ph.D. Cand., Syracuse University

- Claudia S. Harris (1988)
Assistant Professor, Management/
Marketing (1988)
B.S., Eastern Kentucky University;
M.B.A., Ph.D., University of Utah
- Jean Wahl Harris (1987)
Assistant Professor, History/Political
Science (1988)
B.A., M.A., Ph.D., State University
of New York at Binghamton
- Maurice I. Hart, Jr., D. et U * (1963)
Professor, Chemistry (1971)
Chair, Department of Chemistry (1985)
A.B., Maryknoll College;
M.S., Ph.D., Fordham University
- Eileen B. Hewitt (1982)
Assistant Professor, Management/
Marketing (1988)
Chair, Department of Management/
Marketing (1987)
B.S., St. Joseph's College, Maine;
M.S., University of Hartford
- John M. Hill (1981)
Associate Professor, English (1987)
B.A., Central College;
M.A., University of Illinois;
M.F.A., University of Iowa;
Ph.D. Cand., University of Illinois
- William Hill, S.J., D. et U. * (1946 - 47; 1969)
Special Assistant to the President (1987)
Professor, English (1969)
A.B., Georgetown University;
Ph.L., Woodstock College;
S.T.L., Weston College;
M.A., Ph.D., Fordham University
- Frank X.J. Homer, D. et U. * (1968)
Professor, History/Political
Science (1984)
A.B., University of Scranton;
M.S., Ph.D., University of Virginia
- Robert F. Hueston, D. et U. * (1968)
Associate Professor, History/Political
Science (1976)
A.B., College of Holy Cross;
M.A., Ph.D., University of Notre Dame
- Riaz Hussain, D. et U. * (1967)
Associate Professor, Economics/Finance
(1985)
B.S., Forman College;
M.S., University of Panjab;
Ph.D., Johns Hopkins University
- Paul M. Jackowitz, C.D.P., C.C.P. (1977-80;
1982)
Assistant Professor, Computer Science
(1982)
B.S., University of Scranton;
M.S., Rensselaer Polytechnic Institute
- Linda Jacob (1987)
Assistant Professor, Chemistry (1987)
B.A., M.A., Vassar College;
Ph.D., New York University
- Bernard J. Johns, D. et U. * (1961)
Associate Professor, Mathematics (1979)
A.B., Wilkes College;
M.A., Bucknell University;
Doctoral Studies, University of Illinois
- Francis X. Jordan, D. et U. * (1966)
Associate Professor, English (1976)
Chair, Dept. of English (1987)
A.B., M.A., University of Scranton;
Ph.D., St. Louis University
- Prasadarao V. Kakumanu (1978)
Professor, Quantitative Management
Systems (1984)
Chair, Department of Quantitative
Management Systems (1987)
B.S., Andhra University;
M.S., Patna University;
M.A., Delhi University;
Ph.D., Cornell University
- John R. Kalafut, D. et U. * (1965)
Professor, Physics/Electronics
Engineering (1974)
B.S., University of Scranton;
M.S., University of Delaware
- Raymond L. Kimble (1973)
Associate Professor, Education (1973)
B.S., Mansfield State College;
M.S., State University of New York at
Cortland;
Ed.D., Arizona State University
- Ashok Kumar (1983)
Assistant Professor, Computer Science
(1983)
M.A., Ball State University;
B.S., M.S., Ph.D., Delhi University
- John J. Levko, S.J. (1979)
Professor, Mathematics (1987)
Director, Eastern Christian Studies (1986)
B.A., M.S., Ph.D., Lehigh University;
S.T.B., Gregorian University;
M.A., John XXIII Institute, Maryknoll;
S.E.O.L., S.E.O.D. Cand., Pontifical Oriental
Institute, Rome, Italy
- Barbara Samuel Loftus (1986)
Assistant Professor, Management/
Marketing (1987)
B.S., Susquehanna University;
M.B.A., University of Scranton;
Ph.D. Cand., Syracuse University
- Maggie A. Lund (1989)
Instructor, Human Resources (1989)
B.S., M.S., M.S., University of Scranton
- Allan Marber (1985)
Associate Professor, Management/
Marketing (1985)
B.A., Michigan State University;
M.B.A., Baruch College, CUNY;
Ph.D., New York University
- Michael Marino, D. et U. * (1965)
Professor, Education (1970)
B.S., M.S., Brockport State College;
Ed.D., University of Buffalo

- Dennis S. Martin (1985)
Associate Professor, Computer Science (1985)
B.S., Manhattan College;
M.A., University of Rochester;
M.S., Ed.D., State University of New York at Buffalo
- David E. Marx (1987)
Assistant Professor, Chemistry (1988)
B.S., East Stroudsburg University;
Ph.D., State University of New York at Binghamton
- Eugene A. McGinnis, D. et U. * (1948)
Professor, Physics/Electronics Engineering (1963)
B.S., University of Scranton;
M.S., New York University;
Ph.D., Fordham University
- John M. McInerney, D. et U. * (1966)
Professor, English (1977)
A.B., LeMoyne College;
M.A., Ph.D., Loyola University, Chicago
- Michael O. Mensah (1987)
Assistant Professor, Accounting (1987)
B.S., University of Ghana;
M.B.A., Northeast Louisiana University;
Ph.D., University of Houston
- Jay Nathan C.F.P.I.M. (1983)
Associate Professor, Quantitative Management Systems (1983)
B.S., M.S., University of Madras;
M.E., University of Florida;
M.B.A., M.A., Ph.D., University of Cincinnati
- J. Fernando Naveda (1988)
Assistant Professor, Computer Science (1988)
B.S.D., Instituto Tecnologica de Monterrey;
Ph.D., University of Minnesota
- Hong V. Nguyen (1979)
Associate Professor, Economics/Finance (1985)
B.S., State University of New York at Brockport;
M.S., Ph.D., State University of New York at Binghamton
- Alice L. O'Neill (1989)
Instructor, Human Resources (1989)
R.N., State University of New York at Endicott;
B.S., St. Joseph's College;
M.S., University of Scranton
- Richard Plishka (1986)
Associate Professor, Computer Science (1989)
B.S., University of Scranton;
M.B.A., Syracuse University
- Rose S. Prave (1988)
Assistant Professor, Quantitative Management Systems (1988)
B.S., Indiana University of Pennsylvania;
Ph.D. Cand., Pennsylvania State University
- Tribhuvan Puri (1986)
Assistant Professor, Economics/Finance (1986)
B. Tech., G.B. Pant University;
M. Tech., Indian Institute of Technology;
M.S., University of Tennessee;
Ph.D., University of Tennessee
- John J. Quinn, S.J., D. et U. * (1956)
Professor, English (1968, 1975)
A.B., Holy Cross College;
M.A., Fordham University;
S.T.B., Woodstock College;
Ph.L., Weston College;
Ph.D., University of London
- Joseph L. Quinn, S.J. (1979)
Assistant Professor, English (1979)
A.B., Ph.L., A.M., Fordham University;
S.T.B., Woodstock College;
A.M., Ph.D., Harvard University
- William W. Rakauskas, D. Et U. * (1969)
Professor, English (1979)
B.S., M.A., University of Scranton;
Ed.D., Temple University
- Constance C. Relihan (1989)
Instructor, English (1989)
A.B., University of Illinois;
M.A., Ph.D. Cand., University of Minnesota
- J.W. Roberts (1986)
Assistant Professor, English (1987)
B.A., M.A., University of Arkansas;
Ph.D., Kent State University
- Thomas F. Sable, S.J. (1985)
Assistant Professor, Theology/Religious Studies (1985)
B.A., Boston College;
M.S., Georgetown University;
M.Div., Jesuit School of Theology;
Ph.D., Graduate Theological Union
- Carl Schaffer (1988)
Assistant Professor, English (1988)
B.A., Fairleigh Dickinson University;
M.A., University of Michigan;
M.F.A., University of Iowa;
Ph.D., Cand., University of Denver
- Larry R. Sherman (1981)
Assistant Professor, Chemistry (1981)
B.S., Lafayette College;
M.S., Utah State University;
Ph.D., University of Wyoming
- James R. Sidbury (1983)
Associate Professor, Computer Science (1983)
B.S., Duke University;
M.S., Ph.D., Auburn University

- John C. Stevens (1987)
Assistant Professor, Computer Science (1987)
B.A., Reed College;
A.M., Ph.D., University of Chicago;
M.S., Lehigh University
- John K. Stout, D. et U. * (1966)
Professor, Human Resources (1985)
Chair, Department of Human Resources (1989)
B.S., M.S., D.Ed., Pennsylvania State University;
Licensed Psychologist;
Certified Rehabilitation Counselor
- Charles E. Taylor, C.D.P. (1974)
Associate Professor, Computer Science (1983)
B.S., M.B.A., West Virginia University
- Susan Trussler (1985)
Assistant Professor, Economics/Finance (1987)
B.Sc., London School of Economics;
M.S., Ph.D., Pennsylvania State University;
A.P.C., New York University
- Joe A. Vinson (1974)
Associate Professor, Chemistry (1978)
B.S., University of California, Berkeley;
M.S., Ph.D., Iowa State University
- Joan M. Wasilewski (1988)
Assistant Professor, Chemistry (1988)
B.S., King's College;
Ph.D., University of Pennsylvania
- Stephen E. Whittaker (1983)
Associate Professor, English (1988)
B.A., M.A., Ph.D., University of Texas
- David A. Wiley (1988)
Assistant Professor, Education (1988)
B.S., M.S., Ph.D., Temple University
- Bernard D. Williams, D. et U. * (1962)
Professor, History/Political Science (1975)
B.S., LaSalle College;
M.A., Niagara University
- Joseph R. Zandarski, D. et U. * (1951)
Professor, Accounting (1971)
B.S., University of Scranton;
M.B.A., New York University;
Ph.D., University of Pittsburgh

Adjunct Faculty

- Harold Anderson
B.S., University of Scranton
M.S., Pennsylvania State University
- Barbara Brundige-Decker
B.A., Denison University
M.A., Ohio State University
- Matthew C. Farrell, D. et U. * (1967)
Professor Emeritus, Education (1976)
B.A., M.S., University of Scranton;
Ph.D., Fordham University
- Margaret Glaser
B.A., Pennsylvania State University
M.Ed., Ph.D., Temple University
- Patricia Grier
A.B., Marywood College;
M.S., University of Scranton
- John Hewitt
A.B., Stanford University;
M.S., Sacramento State University;
Ph.D., University of Illinois
- George Kauffman
B.S., University of Pennsylvania;
M.P.A., Cornell University
- Joseph M. Krella
B.S., University of Scranton;
M.P.A., Marywood College
- Richard Nardone
B.S., M.B.A., Wilkes College
- Thomas Pregent
B.S., North Adams State College;
M.A., American International College
- Joan L. Roccasalvo, C.S.J.
B.S., Alverno College;
M.A., New York University;
Ph.D., Catholic University of America
- Adrian Samojlowicz
B.S., Temple University;
M.B.A. Xavier University
- Edward Tschopp
B.S., Marywood College;
M.B.A., University of Scranton
- Daniel West
B.S., M.Ed., Ph.D., Pennsylvania State University

* Pro Deo et Universitate Award for 20 years of service.

BRIEF TELEPHONE DIRECTORY

	(717) 961-	
The Graduate School		7600
Academic Departments:		
Business		7611
Chemistry		6286
Computer Science		7774
Education		7421
English		7619
History		7625
Human Resources		7634
Other:		
General University Information		7400
Byron Recreation Center		6203
Career Services		7640
Counseling Center		7620
Financial Aid		7700
Library		7525
Security		7777
Student Health Services		7667
Treasurer		7411
University Computing Systems		7460

NOTES

Legend for Map

DIRECTORY

FACILITIES

1 Fitzpatrick Field	11 Loyola Hall	21 Campion Hall
2 Jefferson Hall	12 St. Thomas Hall	22 Elm Park Annex
3 O'Hara Hall	13 Galvin Terrace	23 Houlihan-McLean Center
4 The Gallery	14 Gunster Center	24 Smurfit Art Center
5 Rock Hall	15 John J. Long Center	25 Center, Eastern Christian Studies
6 Alumni House	16 Maintenance Building	26 Hyland Hall
7 Greenhouse	17 Hill House	27 US-BAC (415 N. Washington Ave.)
8 Scranton Hall	18 Claver Hall	28 CRC, Lake Chapman
9 The Estate	19 Hopkins House	29 Poly-Hi Park
10 Memorial Library	20 Byron Recreation Complex	

RESIDENCES

30 Redington Hall	47 Tioga House
31 Martin Hall	48 York House
32 Casey Hall	49 Cambria House
33 Lynett Hall	50 Montgomery House
34 Hannan Hall	51 Mercer House
35 Fitch Hall	52 Wayne House
36 Denis Edward Hall	53 Monroe House
37 Hafey Hall	54 Wyoming House
38 McCourt Hall	55 Bradford House
39 Nevils Hall	56 Somerset House
40 Driscoll Hall	57 Jerrett House
41 Gavigan Hall	58 Jefferson Hall
42 Luzerne House	
43 Gonzaga House	
44 Blair House	
45 Westmoreland House	
46 Fayette House	

PARKING

A Visitors
B Library - Student Parking
C St. Thomas - Staff
D St. Thomas - Staff
E Catlin Court - Staff
F Long Center (rear) - Staff
G Redington Hall - Students
H Poly-Hi Park - Students
I Student Center - Students
J Monroe Avenue - Students
K O'Hara Hall - Staff
L Jefferson Hall - Students
M Arts Center - Students
P Rock Hall - Students
Q Madison Avenue - Students
R Claver Hall- Staff/Students
S 320 Jefferson - Staff



The Graduate School
University of Scranton
800 Linden Street
Scranton, PA 18510-2192

NON-PROFIT ORG.
U.S. POSTAGE
PAID
PERMIT NO. 520
SCRANTON, PA

UNIVERSITY OF SCRANTON

LIBRARY



Where Potential Becomes Achievement in the Jesuit Tradition